

~~Al. M. M. M.~~ The
English Husbandman,
drawne into two Bookes, and each
Booke into two Parts.

The First Part

Contayning the knowledge of Husband-
ly Duties, the Nature of all sorts of Soiles within
this Kingdome, the manner of *Tillage*, the diversity
of *Ploughes*, and all other *Instruments*.

The Second Part

Containing the Art of *Planting*, *Grafting*,
and *Gardening*, the Vse of the *Vine*, the *Hopgar-*
den, and the Preservation of all sorts of *Fruits*, the
Draught of all sorts of *Knots*, *Mazes*, and
other *Ornaments*.

Newlie Reviewed, Corrected, and Inlarged
by the first Author,

G. M.



London

Printed for Henry Taunton, and are to be sold
at his Shop in Saint Dunstons Church-yard
in Fleetstreet. 1635.

Book into two Parts

by Duties; the Name of all sorts of Goods which
this Kingdom is bound to pay the duty
of a Duty and all other Duties

The Second Part

Containing the Acts of Parliament, Customs
and Duties, the Use of the Law, the Hopper
and the Collection of all sorts of Taxes, and
the Right of all sorts of Wares, and
of all other Duties

Revised, Corrected, and enlarged
by the Author

A. M.



London

Printed for H. K. T. and are to be sold
in the Shop of the Author, and in the
Street, 1723.

TO THE HIGH AND MIGHTY PRINCE

Duke of Lennox, Earle of March,

Lord Darnly, Methuen, S^r. Andrews and

Admiral and Chamberlain of Scotland

By James Montagu, Gentleman of His Majesty's Bed-Chamber, Knight of the most Noble

Bed-chamber, Knight of the most Noble
Order of the Garter, and one of His

Myself most Honourable

to give assistance to the whole which shall

and by many degrees the more

It is your duty to be pleased to find

glimpse of your Gracious favour. Ac-

Qwloefer,; or wwhenloefer

these poore Gatherings shall

come to kisse Your Graces

Hands, I know they must

necessarily appear Strangers.

both in respect of My selfe and the Subject;

but 3 Remembrances of

Your Email, for a quick & specific below

Your Meditation: Yet, Gracious Sir,

A3

TYPE-W

1. *Journal of the American Medical Association*, 283: 2669-2674, 2000.

O w f o e v e r , : o r w h e n s o e v e r
 these poore Gatherings shall
 come to kisse Your Graces
 Hands, I know they must
 necessarily appeare Strangers
 I of My selfe and the Sub,ect,
 but a Remembrances of
 the order & Mercie below
 tion. Yet Gracious Sir,

The Epistle Dedicatorie.

pleased to let me plead this, both for it and mee; That when I was a Servant to Your noble Ancestour, and had houres to bestow on my owne Studies, then at *Layton*, I first thought of this Worke, there I made prooffe of everie Doubt in the Worke, and there I finisht whatsoever I found perfect within mine Experience; Since when (not being willing to lose any meanes that might amplifie profitable Beginnings) I have gathered other Principles; All which I have inserted, and doubt not, but the Worke is now able to give satisfaction to all those which shall question it, and by many degrees the more, If Your *Grace* shall be pleased to throw one glimpse of your Gracious Favourable Acceptance upon it: In which hope I rest

Your *Graces* Servant

Gervase Markham.



THE EPISTLE ·

to the generall and gen-
tle READER.

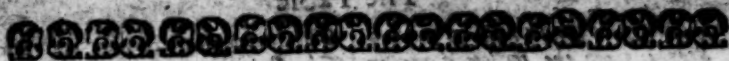


Although (generall Reader) the nature of this worst part of this last Age hath converted all things to such wildnesse, that whatsoever is truly good, is now esteemed most vitions, Learning being derided, Fortitude drawne into so many Definitions, that it consisteth in meere words onely; and although nothing is happy or prosperous, but meere fashion and ostentation, a tedious fustian-sale at a Great mans Table, stufte with big words, without sense, or a mimicke lester that can play three Parts in one, the Foole, the Pandar, and the Parasite; Yet notwithstanding in this Apostate Age I have adventured to thrust into the World this Booke, which nothing at all belongeth to the silken Scorn-ner, but to the plaine russet honest Husbandman, for whose particular benefit, and the Kingdomes generall profit, I have with much Paine, Care, and Industry, passed thorow the same. Now for the Motives which first drew me to undertake the Worke, they were diverse: as first, when I saw one
man

...and making a collection of the best
...of the French, and not to
...collections from Xenophon, and others
...and utterly unacquainted with our Climate
...I beheld, and saw with what good liking they
...of all men; and that trusty man was
...to speak any thing of the Husbandry of our owne
...kingdome, I could not but imagine a Worke most ac-
...to men, and most profitable to the kingdome, to set
...manner and nature of our right English
...Husbandry, our style being so different, and so far in-
...any other style whatsoever, and as far as
...in our commodities, as they are in
...and from these considerations, I beganne this
...of which I have here sent thee a taste, which if I
...according to mine intent, I have my wish.
...there were some errors and mistakes in
...you shall understand they are now purged
...the Worke I hope made sufficient to give
...thy honorable judgement.

Thine

G. B.



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THE FIRST PART
OF THE FIRST BOOKE
OF THE
English Husbandman.

Containing the manner of Plough-
ing and Manuring all sorts of Soyles: To-
gether with the manner of Planring and Setting
of Corne, the choyse of Seede for every

Soyle: the manner of Harveſt, and
getting it in.

CHAP. I.

*The Proem of the Author. What a Husbandman is: His
Vſilitie and Neceſſitie.*



It is a common Adage in our
English ſpeech, that a man ge-
nerally ſeene in all things, can
be particularly perfect in none:
Which Proverb there is no que-
ſtion will both by the curious
and envious be heavily impo-
ſed upon my backe, becauſe in
this, and other workes, I have
dealt with many things of much

B

impor-

importance, and such as any one of them would require a whole livers experience, whereas neither my Birth, my Education, nor the generall course of my life can promise any singularity in any part of those Arts they treat of: but for suggestions (the liberty whereof the wisdom of Kings could never bridle) let them poison themselves, with their owne gall, they shall not so much as make me looke over my shoulder from my labour: onely to the courtuous and well meaning I give this satisfaction, I am but onely a publique Notarie, who record the most true and infallible experience of the best knowing Husbands in this Land.

Besides, I am not altogether unscene in these mysteries I write of: for it is well knowne I followed the profession of a *Husbandman* so long my selfe, as well might make me worthy to be a Graduate in the Vocation: wherein my simplicitie was not such, but I both observed well those which were esteemed famous in the profession, and preserved to my selfe those rules which I found infallible by experience. *Virgil* was an excellent Poet, and a Servant of trusty account to *Augustus*, whose Court and study-employments would have said, he should have little knowledge in rurall businesse, yet who hath set downe more excellently the manner of Italian Husbandrie then himselfe, being a perfect lanthorne, from whose light both *Italie* and other Countries have seene to trace into the true path of profit and frugality? *Seyvent* and *Likault*, two famous Physicians, a profession that never meddled with the Plough, yet who hath done more, truly? nay, their works are utterly uncontrollable touching all manner of French Husbandry whatsoever: so my selfe, although by profession I am onely a Horse-man, in being the predominant outward vertue I can boast of, yet why may not I, having the sense of man, by the ayde of observation and reason, set downe all the Rules and Principles of our English Husbandrie, in as good and as perfect order as any of the farmer? There is no doubt but I may, and this I dare boldly assure

assure unto all Readers, that there is not any rule prescribed through this whole Worke, but hath his authoritie from as good and well experienced men, in the Art of which the Rule treateth, as any this Kingdome can produce: neither have I beene so hasty, or willing, to publish this part as men may imagin, for it is well knowne it hath laine at rest this many yeeres, and onely now at the Instigation of many of my friends is bolted into the world, to try the censure of wits, and to give ayde to the ignorant *Husbandman*. Wherefore to leave off any further digression, I will fall to mine intended purpose: and because the whole scope of my labour hath all his ayme and reference to the English *Husbandman*, I will first shew you, what a *Husbandman* is.

A *Husbandman* is hee which with discretion and good order tilleth the Ground in due seasons, making it fruitful to bring forth Come, and Plants; meeke for the sustenance of man. This *Husbandman* is hee to whom God in the Scriptures giveth many blessings, for his labours of all other are most excellent, and therefore to bee a *Husbandman* is to be a good man; whence the Antients did baptise, and wee even to this day doe seriously observe to call every *Husbandman*, both in our ordinary conference and every particular salutation, Goodman such a one, a title (if wee rightly observe it) of more honour and vertuous note, then many which precede it at feasts and in gaudie places.

The definition
of a Husband-
man.

A *Husbandman* is the Master of the earth, turning sterilitie and barrainnesse, into fruitfulnessse and encrease, whereby all Common-wealths are maintained and upheld, it is his labour which giveth bread to all men, and maketh us forsake the societie of beasts drinking upon the water springs, feeding us with a much more nourishing liquor. The labour of the *Husbandman* giveth libertie to all Vocations, Arts, Mysteries and Trades, to followe their severall functions, with peace and industrie; for the filling and emptying of his Barnes is the encrease and pro-

The Vilitie
of the Hus-
bandman.

sperty of all their labours. To conclude, what can wee say in this world is profitable where Husbandry is wanting, it being the great Nerve and Sinew which holdeth together all the joynts of a Monarchie?

Of the necessity of Husbandmen.

Now for the necessity, the profit inferreth it without any larger amplification: for if of all things it be most profitable, then of all things it must needs be most necessary, sith next unto heavenly things, profit is the whole aime of our lives in this world: besides, it is most necessary for keeping the earth in order, which else would grow wilde and like a wilderness, brambles and weedes choaking up better Plants, and nothing remaining but a Chaos of confusednesse. And thus much of the *Husbandman* his Utility and Necessity.

CHAP. II.

The duties and vertues appertaining to the Husbandman.



Having shewed you the Definition, Utilitie, and Necessitie of the *Husbandman*, it is fit I proceed now to some particular duties and vertues, which ought to accommodate and adorne both his body and his minde, for without some especiall endowments, let his labour be never so great, his knowledge and skill never so deepe, his Reputation never so renewed, yet hee shall finde want in divers prosperities.

Who is a Husbandman.

First therefore let every man understand, that this title of *Husbandman* is not tyed onely to the ordinarie Tillers of the earth, such as we call *Husbandmen*; In *France* Pefants, in *Spain* Befonyans, and generally the Clout-shoo: No, they are creatures of a better creation; for as *Adam* was the first *Husbandman*, so all the sonnes of *Adam* (even from the Crowne to the Cottage; how excellent so ever, if they be excellent indeed,) cannot assume a greater, a better or richer title, then to be a Good-Husband, and where the

the contrary is fixt to the Monument, there the life endeth in scandall.

Then fith our *Husbandman* is ſo good, ſo great; it is neceſſariethat hee be adorned with all the qualitiēs both divine and morall, which may any way beautifie and illuſtrate his calling; into the particulars, whereof I will not enter, becauſe it is a pitch too high, and a field too ſpacious; I will onely touch at ſome few neceſſities, and under them leave to your conſiderations the worth of greater vertues.

Fiſt therefore there is nothing more requiſite in an *Husbandman*, then acquaintance with labour and abilitie to endure labour; for I never read but of one rich Sluggard, and he periſhed the fiſt night hee tooke his reſt; let our *Husbandman* then know labour, and apply himſelfe to labour. I doe not meane ſervile and painefull labour, which ſhall either diſable the body, or torment the minde; but ſuch labours as are requiſite and neceſſarie for his calling, as the labour of his eyes in viſiting and beholding his affaires, in apprehending the good and evil actions of his Servants, in finding out wants, and repairing them, and in ſhewing to others what they ought to performe in their ſeverall places; the labour of his hands in diſtribution of things neceſſarie, wanting, or behoovefull; in aſſiſting and encouraging, or in reſtraining or detaining things lavith or miſapplied: The labour of his feet; in walking about his Paſtures, Medowes, Woods, Commons, and Tillage; in meſuring lengths and breadths, which leades to the aſſured knowledge of profit, and in meeting with miſchances, or elſe preventing them by an early encounter: Laſtly, the labour of the minde, as in fore-caſting affaires to come, providently; in mannaging affaires preſent, diſcreetly, and in preſerving thoſe which are paſt from deſerved controlment.

Labour requi-
ſite in an Huſ-
bandman.

Next, hee ought to have ſkill in his profeſſion, for to en-
deavour is not ſufficient, *Good-will* is an honeſt Servant, but
it is true knowledge that arives at perfection; neither muſt
his ſkill be imaginarie or grounded upon oſtentation, but
reall and approveable with the beſt judgements; for how-

He muſt have
ſkill in Huſ-
bandrie.

soever advise be an excellent Handmayd, yet is true Judge-
ment a better Master; for having that, there is nothing pro-
fitable but is easily discernable, so that he is able by his owne
discourse, to ranke all things in their true order; hee shall
then know what grounds are fit for the Plough, what for
the Sythe, and which for Pasture; what for high Woods,
what for Vnderwoods, what for Inclosure, and what for
Common: He shall then be able to informe himselfe what
is fit for his owne use, and what for others occupation, what
he shal keepe in his own hands, and what he shall farme out
to other men; & then this there is not a better knowledge,
for many men have broken their owne backs in coveting
to carrie too much gold: Besides, this skill in his profession
will breede a singular love and delight, onely to pursue and
follow the profession: as on the contrarie part it will stirre
up a neglect and contempt of other vanities, by what great
name or title soever they be baptized, especially it will
make him peaceable, and an hater of Law-suites, because it
is the wise mans rule, that every Husbandman is bound to
follow his affaires and not contentions.

Hee must be
courtous.

Next to this matter of skill, he shall joyne an affable and
courteous nature, as well for his owne renowne as others
example. This affability as it is tyed generally to all men, so
it is bound particularly to his owne family, for it sufficeth
me not to be good abroad, but I must be excellent at home:
I must not toy onely with my wife and children, but I must
also play with my Servants, and there is not a more excel-
lent cariage of Masters unto their Families, then sweetnesse
and discrete affability; for all men cannot endure rough-
nesse, since out of harshnesse proceeds more rebellion then
good obedience; And the Wiseman tells mee, *That to
hasten servants too speedily, is the losse of profit certainly.*
Therefore the conclusion must needs follow, *That courtesie
is no hinderance to Profit;* yet must this affability and cour-
te- be bounded within a moderate circumference; for to
overflowe, it not onely drownes all the vertues bordering
upon it, but pulls in with it and upon it, contempt, the harte-
fullest

fullest companion which can accommodate any virtuous creature. Servants generally will perform too little, yet it is reputed an error in the Master to exact too much; therefore Moderation is an excellent Umpire betwixt them, and the obscure forbearance of the one, will make the other struggle to excell in requitall. Neither must this courtesie be confined to one place, as to the Yard, the Garden, the Field, the Pastures, or places of severall & necessarie use of labour, but to other places of frequency and commerce, as the House, the Chamber, and the Table: the first to his Servants and Creatures, the second to his Wife and Children, and the last to Strangers: And indeede so much doth the Lord of *Montaigne* commend cheerefull affability at the Table, that hee saith every man is bound to make himselfe a Foole at meale times for the Recreation of those hee entertaineth; the limitation whereof, how farre is boundeth, no wise man but knowes without an Expositer. Let it suffice then that our *Husbandman* be in a true measure, courteous without any overflowe of kindeesse, or ingagement by hyperbolike complement, and affable without haussing or kissing, or the vanity of repentant promises.

Next to these vertues I joyne Sobriety and Discretion; the first is a Champion that wil ever defend him from Ruffnesse, the other a Bulwark that will stand impregnable against all the assaults of Folly; and beleave it, without this there can be no good man, no *Husbandman*, no Man to teach others Thrift by his example; for these are called the Salt of profit. These season and make our Actions wholesome; these rellish and make us taste with pleasure things that are unpleasant, and these preserve and give to things a kinde of eternitie, which otherwise would turne to dung and putrefaction. These two whosoever holds as inseperable Companions, shall hardly erre in his progresse, or stand amazed at any turning *Moulders*. These will teach him the knowledge of himselfe and others, how to Consume and Partem, and by that meanes to come to the understanding of the most difficult Natures.

He must be sober and Discreet.

These

Election of
Friends,

These must be our *Husbandmans* Friends to teach him how to make election of Friends; and then this, there is not an harder lesson; our sides are so false: Insides so guiled, and soules themselves so transfigured & transformed: Therefore I would have our *Husbandman* to joyne Divinity and Philosophie together; that is, to be truly charitable to all men, but singularly affected to a few particulars; to throwe away intimate love too lavishly, is to affect no man sincerely, for Love is compos'd of a jealous substance, and neither holds faire quarter with Generality nor Plurality; therefore in the election of his Intimates, let him chuse those which are Religious towards God, honest towards men, and profitable to themselves and others.

Election of
Servants.

When he hath learnt how to elect Friends; the same Rule will teach him how to elect Servants; and though there be divers mysteries in this kinde of election, because Servants were never so subtil, never so shallow, never so slowe to any good performances, yet in as much as the Master hath the advantage of alteration and mutation (for Services must not be Inheritances, though a good Servant is worthy to be a long-lyved Tenant) there is lesse fault in the Servants error then in the Masters election; therefore it is meete (as neere as he can) to chuse an honest Servant, a faithfull Servant, a lover of his Masters profit, but above all things an hater of drunkenesse, which we call good fellowship.

Of Writing
and Reading.

Lastly, touching the Masters knowledge in the seven liberall Sciences, or in generall learning, howsoever some of our best Teachers holds it a thing unnecessary, and rather burthenosome then profitable, saying, *Writing and Reading are unnecessary in the Husbandman*: Yet I am of another opinion, and thinke as touching the Master of the Family himselfe, learning can be no Burthen; for *Vertue* was never found unprofitable, and questionlesse *Ignorance* was ever an evill Schoole-mistresse. But if we speake as touching some especiall Servants in Husbandrie; as the Bayliffe, the Under-farmer, or any other ordinarie Accountant: then for these vertues of Writing and Reading, it is not much

much materiall whether they be acquainted therewith I of no, for there is more trust in an honest score chaulkt on a Trencher, then in a cunning written scrowle, how well so ever painted on the best Parchment. Writing will helpe a weake Memorie: but a weake Memorie without Writing will soone discover Falshood. I had rather be my Mans *Amanuensis* to register his Truthes, then a Witnesse of his Learning in finding out false Reckonings. And there is more Benefit in simple and single Numeration in Chaulke, then in double Multiplication, though in never so faire an hand written. Therefore let our *Husbandman* not stand much on his Mans Writing or Reading, but rather rely upon his Uprightnesse and Integrity; for the one may be falsified and corrupted, the other if it be sound will hardly be shaken. A world of other Attributes, Adjuncts, and Advises might be reckoned up, to accommodate our *Husbandman*; but these already spoken of are so neere alyed unto them, that it is impossible to be familiar with them, and so lose the others acquaintance.

CHAP. III.

Of others vertues, as namely; How the Husbandman shall judge and fore-know all kinde of Weathers, and other Seasons of the Yeere.



Lthoug God out of his infinite providence, is the onely directer and ruler of all things, governing the yeeres, dayes, minutes, and seasons of the yeere, according to the power of his Will: yet for as much as he hath given us his Creatures, and placed the Celestiall bodies to hold their influences in us, and all things else which have increasement, revealing unto us from their motions, the alteration and qualities of every Season, it shall be very behooevfull for every *Husbandman* to know the signes and tokens of every particular Season, as when it is likely to Raine, when Snow,
C when

when Thunder, when the Winds will rise, when the Winter will rage, and when the Frosts will have the longest continuance, that fashioning his labours, according to the temperature or distemperature of the weather, he may with good judgement and advise, eschew many evils which succede rash and unfore-seeing actions.

Of Rayne,
Signes from
Clouds

To speake then first of the generall signes of Raine, you shall understand that the old *Husbandmen* did observe rules generall, and rules speciall: the generall rules were such as concerned either all, most, or a great part of the whole yeere: the rules speciall, those which concerned dayes, houres, and times present: of which I will first speake in this place.

Signes from
the ~~Moone~~

Clouds

If therefore you shall at any time perceiue a Cloud rising from the lowest part of the Horizon, and that the maine body be blacke and thicke, and his beames (as it were) Curtaine-wise, extending upward, and driven before the Windes: it is a certaine and infallible signe of a present shower of Raine, yet but momentary and soone spent, or passed over: but if the Cloud shall arise against the Winde, and as it were spread it selfe against the violence of the same, then shall the Raine be of much longer continuance.

Signes from
the ~~Sunne~~

Moone

If when you see the new Moone appeare, you perceiue that some part of her Hornes are obscured, or if it be black, or discoloured in the midst: if it hang much to the West, if it be compass or girdled about, either with thicke, or waterish transparent vapours: if it looke more then ordinarily pale, or if it shall begin to raine small and mist-like on the fourth or fift day of her age, all these are infallible signes of Raine, and the last an assured signe that the Raine will continue all that quarter of the Moone following.

Sun

If you shall see the Sunne rise early in the Morning, and spread forth his Beames violently, yet with a very moyst and waterish complexion, and there-withall in the West you doe see a bedde of thicke vapours to arise, increase, and ascend upward, then shall you bee assured that at

high

high noone; when those vapours and the Sunne shall meete, there will bee Raine, and that Raine of no short continuance: If you shall see the Sunne rise red, and turne sodainly blacke, if it have many red clouds about it mixt with blacknesse, if it have a spacious Circle about it, or if when it setteth you see it fall behinde a banke of darke and blacke Cloudes, they bee all most certaine and infallible signes of Raine, which will presently follow.

If it lighten at noone, or any time whilest the Sunne shineth, either with Thunder or without Thunder, or if it lighten in faire weather, or if it lighten more then it thundereth, all are most certaine signes of raine which will follow. Signes from the Lightning.

If you shall perceive water-Fowle to bathe much: if the Crow wet her head at the water brimme, or if shee wade into the water, or if shee shall cry and call much: if the Raven shall croake with a hollow or sounding voyce: if the house-Cocke shall crow at all houres: if Pigeons shall come home late to the Dove-house: if Sparrowes shall chirpe and cry early in the morning: if Bees flye not farre from their Hyves: if Flies and small Gnats bite sharpe and sore, all are most certaine signes of raine, which will presently follow. Signes from Fowle.

If you shall perceive your Oxen to eat more greedily, and with a more earnest stomacke then their usuall custom: if your Kine gaze and looke much upward: if Swine shall play and gambole up and downe: if Horses being at grasse shall scope, course, and chase one another: or if the Cat shall wash behinde her eare, all are certaine signes of raine to follow. Signes from Beasts.

If Salt turne moyst standing in dry places, if Channels, Vaults, and common Sewers stincke more then usuall: if Bels seeme to sound lowder then they were wont: if the Tazell at any time close up his pricks: if Soote fall much from the Chimney: if soyle shall sparkle much when it burneth, or if Marble, Paving-stone, or other walls shall things without motion,

shall sweat, or be much moyst, all are most inevitable signes of raine which will follow.

Signes of
much Raine.

If Raine, when it falleth, make great bubbles, or such a noyse as is not ordinary : or if raine fall mildely, small, and mist-like ; or if raine fall in a calme when no winde stirreth : or if when it raineth, you cannot perceiue the Rack or Clouds to move : if Pullen flye to their roust as soone as the raine begins : if the Raine-bow stretch towards the South, or if it doe reflect and sheedoole : if you shall see one or more Weather-galls which are like Raine-bowes, onely they arise from the Horizon but a small way upward, all these are most certaine signes of much raine that will follow.

Signes of
Snow or
Hale.

If black Clouds shall turne sodainly white : if about either the Sunne or Moone be pale and waterish Circles, or that they seeme to shine as through a mist : if the Ayre be thick and extreame cold without frosts : if with the signes of raine be mixt signes of cold also, or if windes be nipping and extreame sharpe, all are most certaine tokens that Snow or Hayle will follow presently after.

Signes of
winde.

If when the Sunne setteth it looketh red and fiery, and that all that part of the Horizon looke red also, or if it looke blewish, or seeme greater then his ordinary proportion : If the Moone doe blush or looke high coloured, if the Racke ride high, and the Firmament be much vaulted : if Woods and Hills seeme to make a noyse : if the Starres seeme to shine brighter then usuall : if it shall thunder in Winter, or if it thunder without lightning : if Bels be heard farre off with more ease then accustomed, and presently in the same instant be not heard at all : If Cobwebs flye much in the ayre : If Hernes or Heronshoes cry much in their flying : If fire sparkle much, or if Wood or Wainscot crack much, all these are most certaine signes of much winde that will follow after.

Signes of tem-
pests.

If you shall perceiue the Morning or Evening Sunne, either in the Summer or in the *Autumne*, to shine hotter, or to scorch more then accustomed, when the ayre is preft with

with an extreame blacke cloude, or with many clouds, if you perceive whirle-windes to blow oft and violently: if you see the Raine-bow shall appeare in the West without raine: if you see flames and meteors flashing in the ayre, or if the Porpus shall be seene in the fresh River, all are most certaine signes of thunder, lightnings, and tempests, which will follow.

If the Sun rise gray and cleare in the morning, and likewise setteth without darknesse, not loosing a minute in the declination: if the evening skie be ruddy and not fierie, more purple then skarlet: if the Moone be cleare when it is foure or five dayes olde: if it lighten after Sun-set without thunder: if the dewe fall in great abundance; and in the rising ascend up to the mountaines: if the North winde blow strong: if the Owle doe whup much and not scrytch: if Flyes at night play much in the Sunnes beames: if Crows flocke much together, and cakell and talke: if Bats flye busily up and downe after Sunne-set, if you see Cranes flye high, and water-Fowle make their haunts farre off from the water; all these are most certaine signes of very faire weather which will follow after.

If water-Fowle forsake the Water: if the Nightingale sing more then other Birds: if Cranes flocke together: if Geese fight for their feeding place; or if Sparrowes call very early in the Morning, any of these are certaine signes that Winter is neere at hand.

If the West winde blowe freshly Morning and Evening: if the colde abate and lose much of his vigour, if Swallows begin to come in and flye busily about, if the breast-bone of the Mallard or Woodcocke looke white and cleare, any of these are certaine signes that the Spring is at hand.

If the Ramme ride in the Spring, and shew more then an usuall lust: if the Spring have beene very extraordinarily colde, or if Mildewes fall not in the Woodland-Countries, any of these are certaine signes of a hot Summer to follow after.

Signes of a long
Winter.

If you shall see the Oake loaden with Acornes: if the breast-bone of the Mallard when hee is kild looke red: if Hornets be seene after the end of October, or if Cattell doe trample and tread the earth much, making it myrie, or like a new plough'd field: any of these are most certaine signes that the Winter will be sharpe, long, and cruell.

Signes of a forward or backward yeere.

If there fall much Raine before October, by meanes whereof many inundations doe follow, and that such wet lye long above ground: it is a most infallible token that the yeere will be very forward: but if the wet doe fall after October, then it is a signe that the yeere will be indifferent, but and if the wet fall after November, then it is held for most certaine that the yeere will fall out very slack and backward.

Signes of a good or bad yeere.

If the Oke Apples, when they are opened, breed Flies, or if Harvest be seasonable, and the Spring warme: if Snow fall in February: if Broome put forth great store of Flowers: if the Walnut-tree have more blossomes then leaves: if the flower of the Sea-Onion wither not quickly, or if the Spring be preserved from Frosts and Blasting, then any of these are certaine signes that the yeere will proove passing good and fruitfull: but if the Oake Apple breed instead of a Flye a Spider: if Comets or Meteors oppresse the Ayre: if the Summer fall out unnaturally moyst: if the Dewes when they fall or the rising of the Sunne descend to the Rivers: if Frosts come in unseasonable times: if wood-Birds flye to the Plaines, and refuse covert: if the Sunne have his whole body, or at least three parts eclipsed: when Corne beginneth to bloome, and is not fully kirnel'd, then any of these be most certaine signes that the yeere will proove bad, barraine, and fruitlesse.

Signes from
Christmas day.

Againe, if Christmas day shall fall upon the Sunday, the yeere shall bee good, seasonable, and abounding with all store and plenty: if it fall upon Munday the yeere shall be reasonable temperate and fruitfull, onely something subject to inundation of waters, losse by shipwrack, and some mortality of people, especially women in child-bearing: if it fall upon

upon Tuesday, the yeere will proove very barraine and fruitfull, much dearth will raigne, and amongst people great plague and mortality: if it fall upon Wednesday, the yeere shall be reasonably seasonable, though a little inconstant: there shall be plenty of all things, onely much sickness, and great likelihood of warres: if it fall upon the Thursday, the yeere shall be generally very temperate and wholesome, onely the Summer subject to moistnesse, much division is like to fall amongst the Clergie, and women shal be given to more lasciviousnesse then at other seasons: if it fall on the Friday, the yeere shall be barraine and unwholesome, for sickness shall rage with great violence, much mortality shall fall amongst young Children, and both Corne and Cattell shall be scarce, and of a deere reckoning: if it fall on the Saturday, the yeere shall be reasonably good and plentifull, onely the people of the world shall bee exceeding perverse, and much given to mutinie and dissention one against another.

Againe, if the Sunne rise without impediment, and shine bright and cleere upon Christmas day, the yeere will be very plentifull: if it rise likewise cleere the second day in Christmas, then Corne will fall in price: if it rise cleere the third day in Christmas, there will onely bee dissention in the Church: if on the fourth day, it fore-shewes trouble unto young persons: if on the fift day, it shewes that many good things will increase: if on the sixt, doubtlesse every Garden will bring forth great plenty: if on the seaventh, then is much dearth and scarcitie to bee feared: if it shine cleere on the eight day in Christmas, then there is likely to be great store of Fish: if on the ninth, it will doubtlesse prove a good yeere for all manner of Cattell: if on the tenth, the yeere is likely to yeeld much cause of mourning: if on the eleaventh, there will fall much fogges, thicke mistes, and great infection will followe after. Lastly, if the Sunne shine cleare the twelfth day after Christmas, it fore-shewes much warres and troubles, with great losse and bloodshed.

Signes from the
Sunnerising.

Againe,

Signes from the
twelve dayes in
Christmas.

Againe, according to these former observations, you shall understand, that what weather shall fall or be on the fixe and twentieth day of December, the like weather shall be all the moneth of Ianuary after: what shall be on the seaven and twentieth of December, the like shall be all the moneth of Februarie following: what weather shall be on the eight and twentieth day of December, the like weather shall be all March following: what weather shall be the nine and twentieth day of December, the same shall be all Aprill after: what on the thirtieth, the same all May: what on the one and thirtieth, the like all Iune following: what weather shall fall on the first of Ianuary, the same shall be all Iuly after: what on the second of Ianuary, the same all August after: what on the third, the same all September after: what on the fourth, the same all October following: what on the fift, the same all November after, and what weather shall fall on the sixt of Ianuary, which is Twelue-day, the same weather shall fall all December following.

Signes from
Saint Pauls day.

Againe, if Saint Pauls day prove faire, dry and bright, it fore-sheweth plenty of all things the yeere following: but if it be misty, then it shewes great dearth of Cattell. If there fall upon that day Snow or Raine, then it shewes Famine and Want of Corne; but if it be windy, tempestuous; or if it thunder, then it sheweth that great warres will follow.

Signes from
Maudlin. and
Saint Swithens
day.

Againe, looke what quantitie of Raine falleth either on Mary Maudlins day, or on Saint Swithens day, be it more or lesse, the same proportion will fall for the space of forty dayes after: but if these two dayes be faire and dry, all the time of Haruest will be so also.

If Corne shall
be cheape or
deare.

Now if you will know whether Corne shall be cheape or deere, take twelve principall graynes of Wheate out of the strength of the eare, upon the first day of Ianuarie, and when the harth of your Chimney is most hot, sweepe it cleane, then make a stranger lay one of these Graynes on the hot harth, then marke it well, and if it leape a little, Come

Corne shall be reasonably cheape, but if it leape much then Corne shall be exceeding cheape, but if it lye still and move not, then the price of Corne shall stand, and continue still for that Moneth: and thus you shal use your twelve Grains, the first day of every Moneth one after another, that is to say, every Moneth one Graine, and you shall know the rising and falling of Corne in every Moneth, all the yeere following.

If it shall thunder much the first Sunday of the New-yeere, it shewes great death and mortality amongst learned men: if it thunder the first Munday, it shewes great death of women, and many Eclipses of the Sunne: if it thunder on the first Tuesday, it shewes plenty of corne, but much Warre and dissention: if it thunder on the first Wednesday, it shewes mortality and death amongst the worst sort of people, both Male and Female, besides much Warre and bloodshed: if it thunder on the first Thursday in the New-yeere, it sheweth much plenty of Corne that will follow: if it thunder on the first Friday, it betokeneth the losse of great Personages, and men of authority, many affrayes and murders, with much perill and danger. Lastly, if it thunder upon the first Saturday in the New-yeere, it foresheweth onely a generall plague and infection, which shall raigne with strong violence.

Signes from
Thunder.

If you shall perceive the Summer and Spring time to fall out very moyst and rainie, without wind, yet in their own natures very hot and scorching, or if the Southern or Southwest winde blow much without raine: if many fogs and mists fall in the Morning, and overcome the Sunne beames at noone also: if the Sunne suffer any large Eclipse: if Autumne and Winter be more foggie then moyst or cold: if the Dowe or Leaven, of which you mould your bread, doe quickly mould and cleave together without labour: if Dogs runne madde, if Birds forsake their nests: if Sheepe rot: if Femmes, Marriish-grounds, and muddy places abound with Frogs: if Mud-walls breed Swine-lice or Sowes: if Moales forsake the earth: if the small Poxe or Meazels be rise and

Signes of sick-
nes or health.

abound in the Spring time, or if women generally doe miscarie in childe-bed, any of these are most certaine signes of much sicknesse and mortality that will follow the yeere after: and all such signes as are directly contrarie to any of these, as if the Summer and Spring doe fall out dry and windie: if the South or South-west winde bring with it ever raine: if no fogs or mists oppresse the ayre, and so forth of all the rest which are before shewed, are most certaine and infallible tokens of a very wholesome and healthfull yeere, which will ever follow after.

The preservati-
on of health.

Now for the preservation of your health, and to prevent all such sicknesses as are incident to follow in these casuall and dangerous yeeres: through every severall moneth in the yeere you shall observe these few precepts.

First in the moneth of Januarie you shall forbear to let bloud, unlesse upon violent extremity, and that the signe be exceeding good for the same, you shall drink white wine in the morning fasting, & rub your head with a course Towell very hard, but yet cleane, for it is a most wholesome friction.

In the moneth of February, you shall not let bloud for wantonnesse, but neede: you shall forbear Hearb-pottage, for at that time onely they are least wholesome: you shall keepe the soales of your feete from wet, and use every morning your former friction.

In the moneth of March, the signe being good, you may let bloud according to your youth, strength, and necessitie: you may take hot and sweet meats & drinckes, especially Almonds, Figs and Reyzins, and use also your former friction.

In the moneth of Aprill, you may bleed as in the moneth of March: in it also you may purge, by the order of a learned director: let your dyet be hot and fresh meats, and your drinke temperate: also in this moneth your former friction is exceeding wholesome.

In the moneth of May be no sluggard, for the bed is unwholsome. Clarified Whay is this moneth a most soveraine drink, and Sage with sweet Butter is a most excellent breakfast: young Lettuce is an approved good Sallet, and the in-
trals.

trials or offall of Beasts would by all meanes be refused, it is also good to let blood in this moneth onely for necessity, and not for pleasure, and beware by all meanes, not to goe wetshooed in the dawne in the morning.

In the moneth of June observe the dyet of May, or if you be of youthfull blood, it is not amisse if it be a little cooler, and for bleeding let it be for urgent necessity.

In the moneth of July eschew all wanton bed-sport: and if each morning you take a draught of clarified Butter-milk, it is very wholesome: use coole Julyps, and meats that are fresh, and not stirring: now forbear Lettice, and bleed not, except it be in cause of great extremity.

In the moneth of August forbear all manner of Worts, and Cabages, and generally all meates and Spices which are hot and inflaming: but by any meanes bleed not at all, except by the direction of most approved learning.

In the moneth of September you may eate any sort of ripe Fruits: you may bathe in hot Bathes, for colde causes, at your pleasure, and you may let blood according to your necessity: those foods are best which are of lightest digestion, and those drinkes most wholesome which are rather strong then scowring.

In the moneth of October, spare not any blood, except great extremity compell you, and for your dyet, let it be of such foodes as are most strong and nourishing, and your drink Beere or Ale, of indifferent strength, and now and then at the midst, and end of meales, a draught or two of such Wines as are pleasant, strong, and wholesome: Sallets of Flowers, preserved in Vinegar and Sugat, as either Violets, Broome-flowers, or Gelly-flowers of all kindes, or Sampyre, Purslane, or Beane-cods, preserved in pickell, are of excellent use, both in this moneth, and the other two which follow.

In the moneth of November open also no veine, but for great need, because the blood is then gathered together into the principall vessels: Bathing in this Moneth is utterly to bee refused, onely let your body bee kept warme,

and every colde humour or obstruction, rather dissolved by moderate frictions, as is shewed in the moneth of Januarie and Februarie, then by the violence of any other inward medicine. Shell-Fish in this moneth is very wholesome, and so are all other sorts of Fish, which are not too rawe or slymie,

In the Moneth of December blood-letting should be also forborne, except upon some especiall dayes, as after the five and twentieth day at the soonest: and for your diet let it be meate which is hot and nourishing, but by no means that which breedeth melancholy bloud. Use strong Wine, and sharpe Sauces: as for the warmth of your body, next unto good cloathing, let it rather proceed from exercise that is moderate, then from toasting, or broiling your selfe against the fire, for in this Moneth that body can hardly be found whose shinnas are made pyde and modley with the fires scorching.

And thus much touching the experience of the English *Husbandman* in these fore-knowledges, and ayming after the times to come, being drawne from the observations and rules left us by succession of times of those learned Fathers, and other best knowne and approoved in these knowledges: yet I doe not binde every *Husbandman* to make as it were new Creeds of these Principles, but onely to give them to his memorie, as things that will neither oppresse nor hurt it, and if in any seldome-seene particularity, any shall vary from the purpose of the relation, to remember that there is above us a God of all Truth and Knowledge, who will dispose and governs all things, according to his good Will and Pleasure: to which let every Creature submit, in as much as he onely knoweth what is for mankinde most best and most convenient.

CHAP. IIII.

Of the scituation of the Husbandmans house; the necessities thereto belonging, together with the modell thereof.

Since coverture is one of the necessariest things belonging unto mans life, and that it was the first thing that ever man invented, I thinke it not amisse before I enter into any other part of Husbandrie to begin with the *Husbandmans* house, without which no Husbandrie can bee maintained or preserved. And albeit the generall *Husbandman* must take such a house as hee can conveniently get, and according to the custome and abilitie of the soyle wherein he liveth; for many Countries are very much unprovided of generall materialls for well building: some wanting timber, some stone, some lime, some one thing, some another: yet to that *Husbandman* whom God hath enabled with power both of riches, and every other necessarie fit to have all things in a comely convenientnesse about him, if hee desire to plant himselfe decently and profitably, I would then advise him to chuse for his scituation: no high hill, or great promontarie (the seate of Princes Courts) where he may be gazed upon by the eye of every traveller, but some pretty hard knole of constant and firme earth, rather ascending then descending, free from the danger of water, and being invironed either with some pretie Groves, of tall young spiars, or else with rowes of greater timber, which besides the pleasure and profit thereof (having wood so neere a mans dore) the shelter will be most excellent to keepe off the bleaknesse of the sharpe stormes and tempests in Winter, and be an excellent Wormestall for Cattrell in the Summer. But why doe I runne into this large field of Scituation, since it is granted by all men, that a full

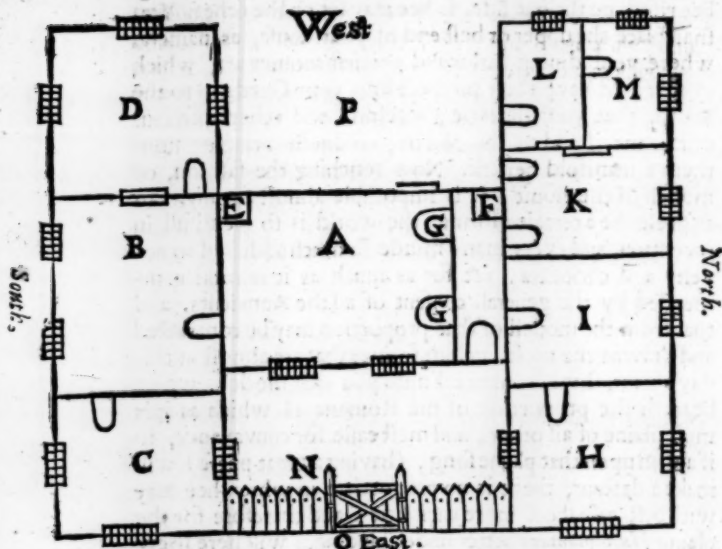
perfection of Scituation for a Country house can no where be found, let mee onely advise our *Husbandman* to accept of what God and Nature hath liberally bestowed upon him, that is, to bestowe his cost upon his owne Inheritance, not others Fee-simples, for so like the hedge-Sparrowe he shall build for the Cuckoe, and when he would be most warme will perish for shelter.

To helpe defects.

Let him in the scituation of his house, where hee findes defects, apply himselfe to amend them, as where there wants wood, there to plant it, where there wants water there to search for it, where there is too much of any thing to abate it, and where there is too little of any thing there to encrease it: onely let him infallibly observe (as neere as he can) to place his house in a good and wholsome ayre; for what avails any thing, if his lodging bee unwholsome. Next a good ayre let him search for good neighbours, for peacefullnesse is a downe-bed, and disquiet a continuall Allaram; neither be neere Garisons where the Drummes are ever beating, nor brawling persons where contention is alwayes waking: let not your house bee too neere great Rivers or Brookes, they may smile in Summer, but they will be angrie in Winter, and it is better to have them wash your Grounds then wet your house, besides they oft vomit forth ill ayres, and are in their owne natures Aguish and unwholsome: yet this house would be planted, if possible, neere to the over-looking or view offsome River, or fresh running Brooke, but by no meanes upon the verge of the River, nor within the danger of the overflow thereof: for the one is subject to too much coldnesse and moisture, the other to overflowing. I would not have our *Husbandman* in his building to imitate *Babel* for height, nor *Babilon* for spaciousnesse, but to keepe a moderation suitable to his calling, for great Cages make not good Birds, nor huge Buildings hospitable Owners. You shall plant the face, or fore-front of your house, upon the rising of the Sunne, that the vigour of his warmth may

may at no time depart from some part thereof, but that as hee riseth on the one side, so hee may set on the other. You shall place the upper or best end of your house, as namely, where your dining Parlor and chiefeſt roomes are, which ever would have their prospect into your Garden, to the South, that your Butterie, Kitchin, and other inferiour offices may stand to the North, coldnesſe bringing unto them a manifold benefit. Now touching the faſhion, or modell of the house, it is impossible almost for any man to prescribe a certaine forme, the world is so plentiful in invention, and every mans minde so much addicted to novelty and curiosities, yet for as much as it is most commended by the generall consent of all the Auncients, and that from the modell of that proportion, may be contracted and drawne the most curious formes that are almost at this day extant, I will commend unto you that modell, which beareth the proportion of the Romane H. which as it is most plaine of all other, and most easie for conveyance, so if a man upon that plaine song, (having a great purse) will make a descant, there is no proportion in which hee may with best ease show more curiositie; and therefore for the plaine *Husbandmans* better understanding, I will here shew him a *fac simile* (for to adde a scale were needlesse in this generall worke, all men not being desirous to build of one bignesse) and this it is :

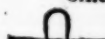
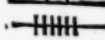
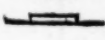
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Here you behold the modell of a plaine Country mans house, without plaster or imbostrure, because it is to be intended, that it is as well to be built of studds and plaster, as of lime and stone; or if timber bee not plentiful, it may be built of courser wood, and covered with lime and haire; yet if a man would bestow cost in this modell, the four inward corners of the hall would be convenient for foure turrets, and the foure gavell ends being thrust out with bay windowes, might be formed in any curious manner: and where I place a gate and a plaine pale, might bee either a tarrisse, or a gatehouse, of any fashion whatsoever; besides all those windowes which I make plaine, might be made bay windowes, either with battlements, or without; but the scope of my booke tenderth only to the use of the honest Husbandman, and not to instruct men of dignity, who in Archi-

Architecture are able wonderfully to controule me, therefore that the *Husbandman* may know the use of this *fac simile*, he shall understand it by this which followeth.

- A. Signifieth the great Hall.
- B. The dining Parlor for entertainment of strangers.
- C. An inward Closet within the Parlor for the Mistresses use, for necessities.
- D. A strangers lodging within the Parlor.
- E. A staire-case into the roomes over the Parlor.
- F. A staire-case into the Good-mans roomes over the Kitchen and Buttery.
- G. The Skreene in the Hall.
- H. An inward Cellar within the Buttery, which may serve for a Larder.
- I. The Buttery.
- K. The Kitchen, in whose Range may be placed a Brewing Lead, and convenient Ovens, the brewing vessels adjoyning.
- L. The Dairy house for necessary businesse.
- M. The Milke-house.
- N. A faire sawne pale before the formost Court.
- O. The great gate to ride in at to the Hall dore.
- P. A place where a Pumpe would be placed to serve the offices of the house.

-  This figure signifieth the dores of the house.
-  This figure signifieth the Windowes of the house.
-  This figure signifieth the Chimneyes of the house.

Now you shall further understand, that on the South side of your house, you shall plant your Garden and Orchard, as wel for the prospect therof to all your best rooms, as also because your house will bee a defence against the Northerne coldnesse, whereby your fruits wil much better prosper. You shall on the West side of your house, within your inward dairy and kitchen Court, fence in a large base Court, in the midst whereof would be a faire large Pond;

well stoned and gravelled in the bottome, in which your Cattell may drinke, and Horses when necessitie shall urge be washt: for I doe by no meanes allow washing of Horses after instant labour. Neere to this Pond you shall build your Dove-coate, for Pigeons delight much in the water: and you shall by no meanes make your Dove-houſe too high, for Pigeons cannot endure a high Mount, but you shall build it moderately, cleane, neate and close, with water Pentisses to keepe away Vermine. On the North side of your base-court you shall build your Stables, Oxe-houſe, Cow-houſe, and Swine-coates, the dores and windowes opening all to the South. On the South side of the base-court, you shall build your Hay-barnes, Come-barnes, Pullet-houſes for Hennes, Capons, Duckes, and Geese, your French Kilne, and Malting flowres, with such like necessaries: and over crosse betwixt both these sides, you shall build your bound Hovels, to carie your Pease, of good and sufficient timber, under which you shall place when they are out of use your Carts, Waynes, Tumbrels, Ploughes, Harrowes, and such like, together with Plough-timber, and Axletrees: all which would very carefully be kept from wet, which of all things doth sooneſt rot and consume them. And thus much of the *Husbandmans* house, and the necessaries there-to belonging.

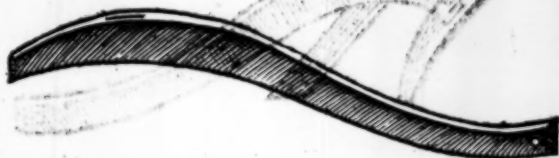
CHAP. V.

Of the severall parts and members of an ordinary Plough, and of the joyning of them together.



HF a Workman of any Trade, or Myſterie, cannot give directions how, and in what manner, the Toolles wherewith he worketh should be made or fashioned, doubtlesse hee shall never worke well with them, nor know when they are in temper, and when out. And so it fareth with the *Husbandman*, for if he know not how his Plough should be made,

made, nor the severall members of which it consisteth, with the vertue and use of every member, it is impossible that ever hee should make a good furrow, or turne over his ground in Husbandly manner: Therefore that every *Husbandman* may know how a well shaped Plough is made, hee shall understand that the first member thereof, as being the strongest and most principallest peece of timber belonging to the same, is called the Plough-beame, being a large long peece of timber much bending, according to the forme of this figure.



This beame hath no certaine length nor thicknesse, but is proportioned according to the ground, for if it be for a clay ground, the length is almost seven foote, if for any other mixt or lighter earth, then five or sixe foote is long enough.

The second member or part of the Plough, is called the skeath, and is a peece of wood of two foote and a halfe in length, and of eight inches in breadth, and two inches in thicknesse: it is driven extreemely hard into the Plough-beame, slope-wise, so that joyned they present this figure.



The third part is called the Ploughes principall Hale, and doth belong to the left hand; being a long bent peece of wood, somewhat strong in the midit, and so slender at the upper end, that a man may easily gripe it, which being fixed with the rest, presenteth this figure.



The fourth part is the Plough head, which must be fixed with the Skeath and the Hale all at one instant in two severall mortisse-holes: it is a flat peece of timber, almost three foote in length if it be for clay ground, otherwise shorter, of breadth seven inches, and of thicknesse two inches and a halfe, which being joyned to the rest presenteth this figure.



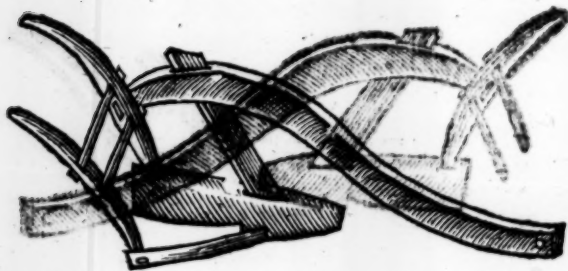
The fift part is the Plough-spindels, which are two small round peeces of wood, which completh together the Hales, as in this figure.



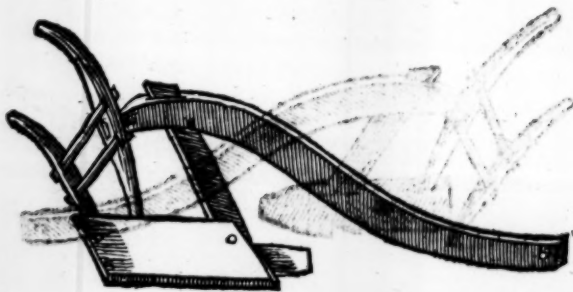
The sixt part is the right hand Hale, through which the other end of the spindels runne, and is much slenderer then the left hand Hale, for it is put to no force, but is onely a stay and ayde to the Plough-houlder when he commeth in heavy, stiffe, and strong worke; and being joyned with the rest, presenteth this figure.



The seaventh part is the Plough-rest, which is a small peece of wood, which is fixt at one end in the further nick of the Plough head, and the other end to the Ploughs right-hand hale, as you may see by this figure.



The eight part is called the shelboard, and is a broad board of more then an inch thicknesse, which covereth all the right side of the Plough, and is fastned with two strong pinnes of wood through the skeath, and the right-hand hale, according to this figure.



The

The ninth part is the Coulture, which is a long peece of Iron, made sharpe at the neather end, and also sharpe on one side, and being for a stiffe clay, it must be straight without bending, which passeth by a mortisse-hole through the beame; and to this Coulture belongeth an Iron ring, which windeth about the beame, and keepeth it in strength from breaking, as may appeare by this figure.



The tenth part of a compleate Plough, is the Share, which is fixed to the Plough head, and is that which cutteth and turneth up the earth: if it be for a mixt earth, then it is made without a wing, or with a very small one, but if it be for a deepe, or stiffe clay, then it is made with a large wing, or an outward point, like the figure following.

The



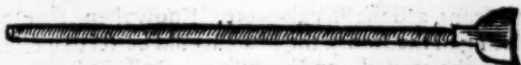
The eleaventh part of a perfect Plough is called the Plough foore, and is through a mortise-hole fastned at the farre end of all the beame with a wedge or two, so as the *Husbandman* may at his discretion set it higher or lower, at his pleasure: the use of it is to give the Plough earth, or put it from the earth, as you please, for the more you drive it downward, the more it raiseth the beame from the ground, and maketh the Irons forsake the earth, and the more you drive it upward, the more it letteth downe the beame, and so maketh the Irons bite the soerer; the figure wherof is this.



Thus have you all the parts and members of a Plough, and how they bee knit and joyned together, wherein I would wish you to observe that your Plough-wright
ever

ever rather give your Plough land then put her from the land, that is, rather leaning towards the earth and biting fore, then ever slipping out of the ground: for if it have too much earth, the *Husbandman* may help it in the holding; but if it have too little, then of necessity it must make foule worke: but for as much as the error and amends lye both in the office of the Plough-wright, I will not trouble the *Husbandman* with the reformation thereof.

Now you shall understand that there is one other thing belonging to the Plough, which albe it be no member thereof, yet is it so necessary, that the *Husbandman* which liveth in durty and stiffe Clayes, can never go to Plough without it, and it is called the Aker-staffe, being a pretty bigge cudgell, of about a yard in length, with an Iron spud at the end, according to this figure:



This Aker-staffe the *Husbandman* is ever to 'carry within his Plough, and when at any time the Irons, Shelboard, or Plough, are choaked with durty, clay, or filth, which will cling about the old stubble; then with this Aker-staffe you shall put the same off (your Plough still going) and so keepe her cleane and smooth that your worke may lye the handsomer; and this you must ever doe with your right hand: for the Plough choaketh ever on the shelboard side, and betweene the Irons. And thus much touching the perfect Plough, and the members thereof.

CHAP. VI.

How the Husbandman shall temper his Plough, and make her fit for his worke.



Plough is to a *Husbandman* like an Instrument in the hand of a Musitian, which if it be out of tune can never make good Musick, and so the Plough, being out of order, if the *Husbandman* have not the cunning to temper it, and set it in the right way, it is impossible that ever his labour should come to good end.

It is very necessarie then that every good *Husbandman* know that a Plough being perfectly well made, the good order or disorder thereof consisteth in the placing of the Plough-Irons, and the Plough-foote. Know then, that for the placing of the Irons, the Share would be set to looke a little into the ground: and because you shall not bruise, or turne the point thereof, you shall knocke it fast upon the head, either with a crooked Rams-home, or else with some piece of soft Ash-wood; and you shall observe that it stand plaine, flat, and leuell, without wrying or turning either upward or downward: for if it runne not even upon the earth, it will never make a good furrow, onely as before I said, the point must looke a little downward.

Now, for the Coulture, you must place it slope-wise through the beame, so as the point of it, and the point of the Share may as it were touch the ground at one instant; yet if the Coulture point be a little though the longer, it shall not be amisse: yet for a more certaine direction, and to trie whether your Irons stand true I or no, you shall take a string, and measure from the mortise-hole through which the Coulture passeth, to the point of the Coulture, and so keeping your upper hand constant, lay the same length to the point of your share, and if one measure serve them both right, there being no difference betweene them, then
the

the Irons stand true for their length, otherwise they stand false.

Now your Coulture albe it stand true for the length, yet it may stand either too much to the land, or too much from the land, either of which is a great errour, and will keepe the Plough from going true: your Coulture therefore shall have certaine wedges of olde dry Ash wood, that is to say, one before the Coulture on the upper side the beame, and another on the land side, or left side, the Coulture on the upper side the beame also; then you shall have another wedge behind the Coulture underneath the beame, and one on the furrow side, or right side, the beame underneath also. Now, if your Coulture have too much land, then you shall drive in your upper side wedge, and ease the contrary: if it have too little land, then you shall contrarily drive in your right side under wedge, and ease the other: If your Coulture stand too forward, then you shall drive in your upper wedge which standeth before the Coulture; and if it stand too backward, and too neere your Share, then you shall drive in your under wedge which standeth behinde the Coulture: if your Coulture standeth awry any way, then are either your side wedges too small, or else not even and plain cut, which faults you must amend, and then all will bee perfect. Now, when your Irons are iust and truly placed, then you shall drive in every wedge hard and firme, that no shaking or other straine may loosen them: as for the Plough foote it also must have a wedge or two, which when your Plough goeth right, and to your contentment (for the foote will keepe it from sinking or rising) then you shall also drive them in hard, that the foote may not stirre from the true place where you did set it. And that these things when a man commeth into the field may not be to seeke, it is the office of every good *Husbandman* never to goe forth with his Plough, but to have his Harcher in a socket, fixt to his Plough beame, and a good peece of hard wedge wood, in case any of your wedges should shake out and be lost.

Of holding
the Plough.

When your Plough is thus ordered & tempered in good manner, and made fit for her worke, it then resteth that you know the skill and advantages in holding thereof, which indeed are rules of much diversity, for if it be a stiffe black clay which you plough, then can you not plough too deepe, nor make your furrowes too bigge: if it bee a rich hassell ground, and not much binding, then reasonable furrowes, laid close, are the best: but if it bee any binding, stonie, or sandie ground, then you cannot make your furrowes too small. As touching the governing of your Plough, if you see shee taketh too much land, then you shall writh your left hand a little to the left side, and raise your Plough-rest somewhat from the ground: if shee taketh too little earth, then you shall raise up your left hand, and carrie your Plough as in a direct line: If your Plough-Irons forbear and will not bite on the earth at all, then it is a signe that you hang too heaue on the Plough hales, raising the head of the Plough from the ground, which errorr you must amend, and of the two rather raise it up behinde then before; but to doe neither is best, for the Plough hale is a thing for the hand to governe, and not to make a leaning stock of: And thus much touching the tempering of the Plough, and making her fit for worke.

CHAP. VII.

Of the manner of Ploughing all simple Earths, which are uncompounded.



HAve many famous and learned men, both in France, Spaine, Italy, and Germany, have spent all their best time in shewing unto the world the excellencie of their experiences, in this onely renowned Att of Husbandry, their large and learned Volumes, most excellently written, in that kinde, are witnesses: from whence we by translations have gotten some contentment, though but small profit; because those

those forraigne clymates, differing much from ours, both in nature of earth, and temper of Ayre, the rules and observations belonging unto them can be little available to us, more then to know what is done in such parts, a thing more appertaining to our conference then practise. But now, that other Kingdomes may see, though we write lesse, yet wee know as much as belongeth to the office of the English Husbandman, I, though the meanest of many millions, have undertaken to deliver unto the world all the true rudiments, observations, and knowledges whatsoever, which hath any affinitie or alliance with English Husbandry. And for as much as the best and principallest part of Husbandrie consisteth in the ploughing and earing of the ground (for in that onely *Adam* began his first labours) I thinke it not unmeet, first to treat of that subject, proceeding so from branch to branch, till I have given every one sufficient knowledge.

To speake then first of the Tilling of Grounds. You shall well understand, that it is the office of every good Husbandman before hee put his Plough into the earth, truly to consider the nature of his Grounds, and which is of which qualitie and temper. To proceede then to our purpose; all soyles whatsoever, in this our Kingdome of England, are reduced into two kindes onely, that is to say, Simple or Compound. Simple, are those which have no mixture with others of a contrary quality, as are your stiffe Clayes, or your loose sands: your stiffe Clayes are likewise divers, as a black Clay, a blew Clay, and a Clay like unto Marble. Your sands are also divers, as a red sand, a white sand, a yellow sand, and a sand like unto dust. Your mixt earths are where any of these Clayes and Sands are equally or unindifferently mixed together, as shall be at large declared hereafter. Now as touching the tilling of your simple Clayes, it is to be noted, that the black Clay, of all earth, is the most fruitfull, and demandeth from the Husbandman the least toyle, yet bringeth forth his encrease in the greatest abundance: it will well and sufficiently bring forth three crops ere it desire rest:

namely, the first of Barley, the second of Pease, and the third of Wheate: It doth not desire much Manure, for it is naturally of it selfe so fat, rich, and fruitfull, that if you adde strength unto his strength, by heaping Manure or Compasse thereupon, you make it either blast, and mildew the Corne that growes, with the too much farnesse of the earth, or else through his extreame ranknesse, to bring it up in such abundance, that it is not able to stand upright when it is shot up, but falling downe flat to the ground, and the eares of Corne smothering one another, they bring forth nothing but light Corne, like an emptie huske, without a kinnell. The best Manure or Compasse therefore that you can give such ground, is then to plough it in orderly and due seasons, as thus: you shall begin to fallow, or breake up this soyle, at the beginning of May, at which time you shall plough it deepe, and take up a large furrow, and if your Lands lye any thing flat, it shall be meete that you begin on the ridge of the land, and turne all your furrowes upward, but if your Lands lye high and upright, then shall you begin in the furrow, and turne all your furrowes downward, which is called of *Husbandmen*, the casting downe of Land. This first ploughing of Ground, or as *Husbandmen* terme it, the first ardor, is called fallowing: the second ardor, which wee call stirring of ground, or sommer stirring, you shall begin in July, which is of great consequence, for by meanes of it you shal kill all manner of weeds and thistles that would annoy your Land. In this ardor you must oft observe, that if when you fallowed you did set up your Land, then now when you stirre you must cast downe your Land, and so contrarily, if before you did cast downe, then now you must set up: your third ardor, which is called of *Husbandmen*, winter ridgeing, or setting up Land for the whole yeere, you shall begin at the latter end of September, and you must ever observe that in this third ardor you doe alwayes ridge up your Land, that is to say, you must turne every furrow upward, and lay them as close together as may be; for should you doe otherwise, that

that is to say, either lay them flat or loosely, the winter season would so bear and bake them together, that when you should sowe your seede, you would hardly get your Plough into the ground.

Now your fourth and last ardor, which must bee when you sowe your seede, you shall begin ever about the midst of March, at least one weeke before our Ladies day, commonly called the Annuntiation of *Mary*, and this ardor you shall ever plough downward, laying your ridges very well open, and you shall ever observe in this ardor, first to sowe your seede, and then after to plough your ground, turning your seed into the earth, which is called of *Husbandmen*, sowing under furrow: as soone as your ground is ploughed, you shall harrow it with an Harrow, whose teeth are all of wood, for these simple earths are of easie temper, and will of themselves fall to dust; then after you have thus sowne your ground, if then there remaine any clots or lumps of earth unbroken, you shall let them rest till after the next shower of raine, at which time you shall either with a heaue rouler, or the back side of your Harrowes, run over your Lands, which is called the sleighting of ground, and it will not onely breake such clots to dust, but also lay your Land plaine and smooth, leaving no impediment to hinder the Corne from sprouting and comming forth. In this same order as you are appointed for this black Clay, in this same manner you shall order both your blew Clay, and your Clay which is like unto Marble. Now as touching the Plough which is fittest for these Clayes, it must be large and strong, the beame long and well bending, the head thick and large, the Skeeth broad, strong, and well sloaping, the Share with a very large wing, craving much earth, and the Coulter long, thick, and very straight.

Now touching those lands which are simple and uncompounded, you shall understand that every good *Husbandman* must beginne his first ardor (which is to fallow them) at the beginning of Januarie, he must summer-stirre them, which is the second ardor, at the latter end of April, ha:

he shall cast them downe againe, which is called foyling of Land, at the beginning of July, which is the third ardor, and wherein is to be noted, that howsoever all other ardors are ploughed, yet this must ever be cast downward: the fourth ardor, which is winter-stirring or winter-ridging, must ever begin at the end of September, and the fift and last ardor must be performed when you sowe your Ground, which would be at the middest of May, at the soonest; and if your leaseure and abilitie will give leave, if you turne over your Ground againe in Januarie, it will be much better, for these sands can never have too much ploughing, nor too much Mannre, and therefore for them both, you shall apply them so oft as your leaseure will conveniently serve, making no spare when either the way or opportunity will give you leave. Now for as much as all sands, being of a hot nature, are the fittest to bring forth Rye, which is a graine delighting in drineffe onely, you shall understand, that then you shall not neede to plough your Ground above foure times over, that is, you shall fallow, Summer stirre, foyle, and in September sowe your Corne: and as these ardors serve the red sand, so are they sufficient for your white sand, and your yellow sand also. As touching the Ploughes fit for these light earths, they would be little and strong, having a short slender beame and a crooked; a narrow and thinne head, a slender skeeth, a share without a wing, a Coultre thinne and very crooked, and a paire of Hales much bending forward towards the man; and with this manner of Plough you may plough divers mixt and compounded earths, as the blacke Clay and red sand, or the red sand and white gravell. And thus much as touching earths that are simple and uncompounded. I will now proceede to the particular Husbandrie of these uncompounded earths:

CHAP. VIII.

*The manner of Ploughing the rich, stiffe, blacke Clay, his Ear-
ring, Plough, and other Instruments.*



Fall the Soyles in this Kingdome, there is none so rich & fertile (so it be well handled & Husbanded) as is that which we call the stiffe black clay, & indeed is more blacker to look on then any other Soyle, yet sometimes it wil turn up very blewish, with many white veines in it, which is a very speciall note to know his fruitfulnessse; for that blewish earth mixt with white, is nothing else but very rich Marle, an earth that in Cheshire, Lancashire, and many other Countreies, serveth to Manure and make fat their barraineft land in such sort, that it will beare Corne seaven yeeres together. This black Clay as it is the best soyle, well Husbanded, so it is of all soyles the worst if it be ill Husbanded: for if it lose but one ardor, or seasonable Ploughing, it will not be recovered in foure yeeres after, but will naturally of it selfe put forth wilde Oates, Thistles, and all-manner of offensive weedes, as Cockle, Darnell, and such like: his labour is strong, heaue, and sore, unto the cattell that tilleth it, but to the *Husbandman* is more easie then any other soyle; for this asketh but foure times Ploughing over at the most, where diuers other soyles aske five times, and sixe times, as shall bee shewed hereafter. But to come to the Ploughing of this soyle, I hold it meete to begin with the beginning of the yeere, which with *Husbandmen* is, at Plough-day, being ever the first Munday after the Twelwe-day, at which time you shall goe forth with your draught, and begin to Plough your Pease-
earth, that is, the earth where you meane to sowe your Pease, or Beanes: for I must give you to understand, that these Clayes are ever more naturall for Beanes then Pease, not but that they will beare both alike, onely the *Husbandman* imployeth them more for Beanes, because Pease and Fitches will grow upon every soyle; but Beanes will grow no where

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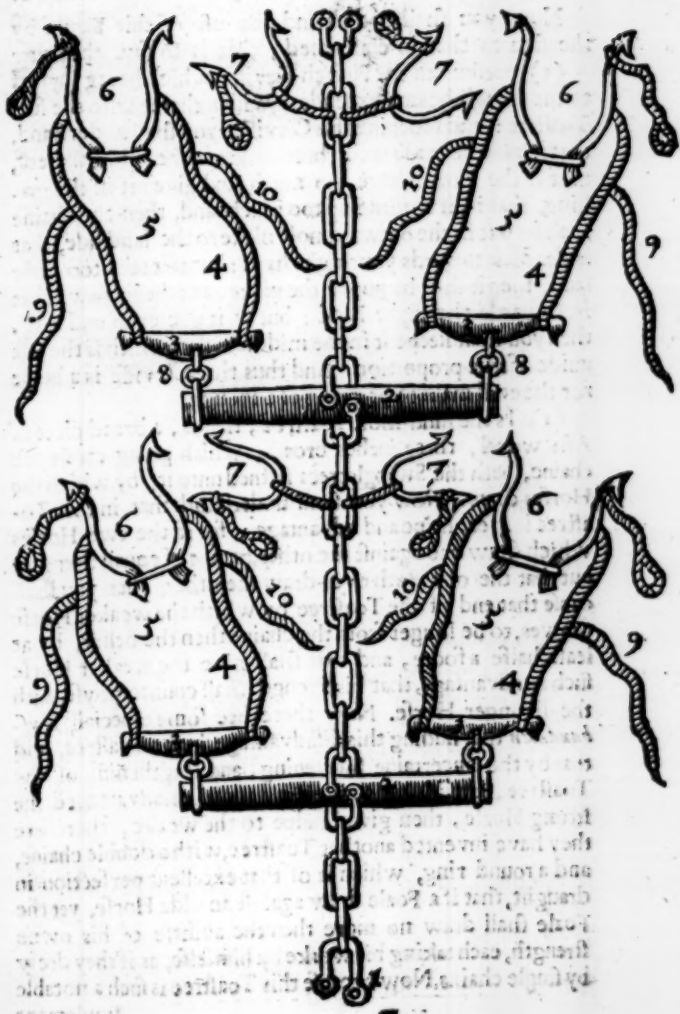
but

but on the Clayes onely. This Pease-earth is ever where Barley grew the yeere before, and hath the Stubble yet remaining thereon. You shall Plough this Pease-earth ever upward, that is, you shall begin on the ridge of the land, and turne all your furrowes up, one against another, except your lands lye too high (which seldome can be seene) and then you shall begin at the furrow, and cast downe your land.

Now, when you have Ploughed all your Pease-ground, you shall let it so lye, till it have received divers Frosts, some Raine, and then a faire Season, which betwixt Plough-day and Saint *Valentines* day you shall be sure to enjoy: and this is called, *The letting of Land lye to baite*: for without this rest, and these Seasons, it is impossible to make these Clayes harrow, or yeeld any good mould at all. After your Land hath received his kindly baite, then you shall cast in your Seede, of Beanes, or Pease: but in my conceit, an equall mixture of them is the best seede of all, for if the one faile, the other will be sure to hit: and when your land is sowne, you shall harrow it with a Harrow that hath wooden teeth.

The next Ardor after this, is the sowing of your Barley in your fallow field: the next is the fallowing of your ground for Barley the next yeere: the next Ardor is the Summer-stirring of that which you fallowed: the next is the foyling of that which you Summer-stirde: and the last is the Winter rigging of that which you foil'd: of all which Ardors, and the manner of Ploughing them, with their Seasons, I have written sufficiently in a former chapter, where I speak of simple earths uncompounded.

Now whereas I told you before that these Clayes were heaue work for your Cattell, it is necessary that I shew you how to ease them, and which way they may draw to their most advantage, which onely is by drawing in Beare-geares, an invention the skilfull *Husbandman* hath found out, wherein foure Horses shall draw as much as sixe, and sixe as eight, being geared or harnessed in any other contrary fashion. Now because the name only bettereth not your knowledge, you shall here behold the figure and manner thereof.



Now you shall understand the use of this Figure by the figures therein contayned; that is to say, the figure

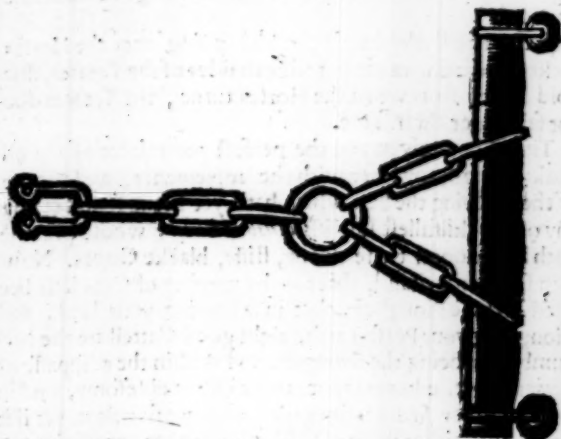
(1) presenteth the Plough-clevisse, which being joyned to the Plough-beame, extendeth, with a chaine, unto the first Toastree: and touching this Clevisse, you shall understand, that it must be made with three nickes in the midst thereof, that if the Plough have too much land given it in the making, that is, if it turne up too much land, then the chaine shall be put in the outwardmost nicke to the land side, that is, the nicke towards your right hand: but if it take too little land, then it shall be put in the nicke next the furrow, that is, towards the right hand: but if it goe even and well, then you shall keepe it in the middle nicke, which is the just guide of this proportion. And thus this Clevisse is a helpe for the evil making or going of a Plough.

(2) Is the hind-most Toastree, that is, a broad piece of Ash wood, three inches broad, which going crosse the chaine, hath the Swingletrees fastned unto it, by which the Horses draw. Now you shall understand that in this Toastree is great helpe and advantage: for if the two Horses which draw one against the other, be not of equal strength, but that the one doth over-draw the other, then you shall cause that end of the Toastree by which the weaker Horse drawes, to be longer from the chaine then the other, by at least halfe a foote, and that shall give the weaker Horse such an advantage, that his strength shall counterpoysse with the stronger Horse. Now there bee some especiall *Husbandmen* that finding this disadvantage in the Toastree, and that by the uncertaine shortening, and lengthening of the Toastree, they have sometimes more disadvantaged the strong Horse, then given helpe to the weake, therefore they have invented another Toastree, with a double chaine, and a round ring, which is of that excellent perfection in draught, that if a Foale draw against an olde Horse, yet the Foale shall draw no more then the abilitie of his owne strength, each taking his wake by himselfe, as if they drew by single chains. Now because this Toastree is such a notable

Implement

Implement both in Plough, Cart, or Waine, and so worthy to be imitated of all good Husbards, I thinke it not amisse to shew you the figure thereof.

The Tonsfree with double chaines.



(3) The Swingletrees, being pieces of Ash wood cut in proportion afore-shewed, to which the Treates, by which the Horses draw, are fastned with strong loopes.

(4) The Treates by which the Horses draw, being strong cords made of the best Hempe.

(5) The place betweene the Treates, where the Horses must stand.

(6) The Hames which girt the Collers about, to which the other end of the Treates are fastned, being compassed pieces of wood, either cleane Ash, or cleane Oake.

(7) The round Withes of wood, or broad thongs of leather, to put about the Horses necke, to beare the maine chaine from the ground, that it trouble not the Horses in their going.

(8) The Single-links of Iron, which joyne the Swingle-trees unto the Toastrees.

(9) The Belly-bands, which passe under the belly of the Horſe, and are made faſt to both ſides of the Treates, keeping them downe, that when the Horſe drawes, his collar may not choake him: being made of good ſmall line or cord.

(10) The Backe-bands, which going over the Horſes backe, and being made faſt to both ſides of the Treates, doe hold them, ſo as when the Horſes turne, the Treates doe not fall under their feete.

Thus I have given you the perfect portraiture of a well yoakt Plough, together with the Implements, and the uſe of them, being the beſt which hath yet bene found out by any of our ſkilfulleſt Engliſh Husbandmen, whoſe practice hath bene upon theſe deepe, ſtiſſe, blacke Clayes. Now you ſhall underſtand, that for the number of Cattell to bee uſed in theſe Ploughes, that in fallowing your land, and Ploughing your Peaſe-earth, eight good Cattell are the beſt number, as being the ſtrongeſt, and within the compaſſe of government, whereas more were but troubleſome, and in all your other Ardors, ſixe good beaſts are ſufficient; yet if it be ſo, that either want of ability, or other neceſſitie urge, you ſhall know that ſixe beaſts will ſuffice either to fallow, or to Plough Peaſe-earth, and foure beaſts for every other Ardor or earing: and leſſe then this number is moſt inſufficient, as appears by daily experience, when poore men kill their Cattell onely by putting them to over-much labour. And thus much touching the ploughing of the black Clay.

How many
beaſts in a
Plough.

CHAP.

CHAP. IX.

*The manner of Ploughing the white or gray Clay, his Earing,
Plough, and Instruments.*

NOW as touching the white or gray Clay, you shall understand that it is of divers and sundry natures, altering according to his tempers of wet or drinesse: the wet being more tough, and the dry more brittle: his mixture and other Characters I have shewed in a former Chapter, wherefore for his manner of Ploughing (observing my first methode, which is to begin with the beginning of the yeere, I meane at Christmas) it is thus:

If you finde that any of this white or gray Clay, lying wet, have lesse mixture of stone or chaulke in it, and so consequently bee more tough, as it doth many times fall out, and that upon such land, that yeare, you are to sowe your Pease and Beanes: for as in the former blacke Clay, so in this gray Clay you shall begin with your Pease-earth ever: then immediately after Plough-day, you shall plough up such ground as you finde so tough, in the selfe-same manner as you did plough the black Clay, and so let it lye to baite till the Frost have seasoned it, and then sowe it accordingly. But if you have no such tough land, but that it holdes it owne proper nature, being so mixt with small stones and chaulke, that it will breake in reasonable manner, then you shall stay till the latter end of Januarie, at what time, if the weather bee seasonable, and inclining to drinesse, you shall beginne to plough your Pease-earth, in this manner: First, you shall cause your seedes-man to sowe the land with single casts, as was shewed upon the blacke Clay, with this caution, that the greater your seede is, (that is, the more Beanes you sowe) the greater must bee your quantity: and being sowne, you shall bring your Plough, and beginning at the furrow of the land, you shall plough
every

Of sowing of
Pease and
Beanes.

every furrow downeward upon the Pease and Beanes : which is called sowing of Pease under furrow : and in this manner you shall sow all your Pease and Beanes, which is cleane contrary to your blacke Clay. Besides, whereas upon the stiffe Clay it is convenient to take as large furrowes as you please : upon this kinde of gray Clay you shall take as small furrowes as is possible. Now the reason for this manner of Ploughing your Pease-earth, is, because it is a light kinde of breaking earth, so that should it be sown according to the stiffe blacke Clay, it would never cover your Pease, but leave them bare, both to bee destroyed by the Fowles of the ayre, and the bitternesse of the weather. As soone as your Pease and Beanes are risen a fingers length above the earth, then if you finde that any of your lands doe lye very rough, and that the clots be great, it shall not be amisse, to take a payre of wooden Harrowes, and harrow over all your rough lands, the benefit whereof is this, that it will both breake the hard clots, and so give those Pease leave to sprout through the earth, which before lay bound in and drowned, and also lay your lands smooth and cleane, that the Mowers when they come to mowe your Pease and Beanes, shall have better worke, and mowe them with more ease, and much better to the owners profit. For you must understand that where you sowe Beanes, there it is ever more profit to mowe them with Sythes, then to reape them with Hookes, and much sooner, and with lesse charge performed. The limitation of time for this Ardur or earing, is from the latter end of January untill the beginning of March, not forgetting this rule, that to sowe your Pease and Beanes in a shewer, so it be no beating raine, is most profitable : because they, as Wheat, take delight in a fresh and a moyst mould.

Of sowing of
Barley.

After the beginning of March, you shall begin to sowe your Barley upon that ground which the yeere before did lye fallow, and is commonly called your Tith, or fallow field : and if any part of it consist of stiffe and tough ground, then you shall, upon such ground, sowe your Barley under furrow,

furrow, in such manner and fashion as I described unto you for the sowing of your stiffe blacke Clay: but if it be (as for the most part these gray and white Clayes are) of a much lighter, and as it were, fustie temper, then you shall first plough your land upward, cleane and well, without bankes or stiches: and having so ploughed it, you shall then sowe it with Barley, that is to say, with double casts, I meane, bestowing twise so many casts of Barley, as you would doe if you were to sowe it with Pease. And as soone as you have sowne your Barley, you shall take a paire of wooden Harrowes, and harrow it as small as is possible: and this is called sowing above furrow.

Now if you have any land, which either through the badnesse of the soyle, or for want of Manure, is more barren, and hard to bring forth then generally the rest of your land is, then you shall not bestowe Barley thereupon, but sowe it with Oates, in such manner and fashion as is appointed for the sowing of Pease, that is to say, if it bee stiffe ground you shall sowe it above furrow, if it be light ground, then you shall sowe it under furrow, knowing this for a rule, that the barrenest ground will ever beare indifferent Oates, but if the ground have any small heart, then it will beare Oates in great abundance: neither neede you to be very precise for the oft ploughing of your ground before you sowe your Oates, because Oates will growe very well if they be sowne upon reasonable ground, at the first ploughing: whence it comes to passe, that many *Husbandmen* doe oft sowe their Oates where they should sowe their Pease, and in the same manner as they doe sowe their Pease, and it is held for a rule of good Husbandrie also: because if the ground be held any thing casuall for Pease, it is better to have good Oates then naughty Pease: besides, your Oates are both a necessary graine in the house, as for Oate-meale; for the pot, for Puddings, and such like, and also for the Stable, for Provender, and the feeding of all manner of Poultry. The time for sowing of your Barley and Oates, is from the first of March till the first of Aprill, observing ever

Of sowing
Oates.

to sowe your Oates first, and your Barley after, for it being onely a Summer graine, would participate as little as may be with any part of the Winter.

Of Fallowing

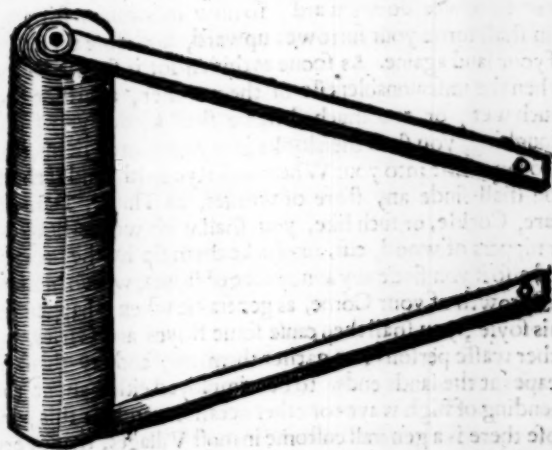
About the middest of Aprill you shall beginne to fallow that part of your ground, which you intend shall take rest that yeere, and so become your fallow or tilth-field. And in fallowing this gray or white Clay, you shall observe all those rules and ceremonies, which are formerly described for the fallowing of the stiffe blacke Clay, knowing that there is in this worke no difference betweene the blacke Clay, and the gray Clay, but both to be ploughed after one manner, that is to say, to have all the furrowes cast downward, and the ridges of the lands laid largely open, and of a good depth, onely the furrowes which you turne upon this gray Clay must bee much smaller, and lesse then those which you turne upon your stiffe blacke Clay, because this earth is more naturally enclined to binde and cleave together then that of the blacke Clay. The time for fallowing of this Ground, is from the middest of Aprill untill the middest of May: at what time you shall perceiue your Barley to appeare above the ground, so that then you shall beginne to sleight and smooth it: but not with backe Harrowes, as was described for the blacke Clay, because this gray Clay being not so fat and rich, but more enclined to fastnesse and hardnesse, therefore it will not sunder and breake so easily as the other: wherefore when you will smooth or sleight this Ground, you shall take a round piece of wood, being in compasse about at least thirty inches, and in length sixe foote, having at each end a strong pinne of Iron, to which making fast two small poales, by which the Horse shall draw, yet in such sort, that the round piece of wood may roule and turne about as the Horse drawes it: and with this you shall roule over all your Barley, and by the waight of the round piece of wood bruiſe and break all the hard clots asunder. This is called amongst *Husbandmen*, a Rouler, and is for this purpose of sleighting and smoothing of grounds of great use and profit. Now you shall understand

Of sleighting
Barley.

understand that you must not at any time sleight or smooeth your Corne, but after a shower of Raine, for if the mould be not a little moistned, the rouser will not have power to breake it.

Now for as much as this rouser is of so good use, and yet not generally used in this Kingdome, I thinke it not amisse to shew you the figure thereof.

The great Rouser.



As soone as you have roused over your Barley, and laid it so smooth as you can with your rouser, if then you perceive any hard clots, such as the rouser cannot breake, then you shall send forth your servants with long clotting beetels, made broad and flat, and with them you shall breake asunder all those hard clots, and so lay your Barley as smooth and cleane as is possible: the profit whereof you shall both finde in the multiplying of your Corne, and also in the saving of your sythes from breaking, at such time as you shall

shall come to mowe your Corne, and gather in your Harvest.

Of Summer-
stirring.

Your Barley being thus laide smooth, you shall then follow your other necessarie businesse, as preparing of your fewell, and other needments for Household, untill the beginning of June, at which time you shall begin to Summer-stirre your fallow field, which shall bee done in all points after the same maner, as you did Summer-stirre your blacke Clay, that is to say, you shall begin in the ridge of the land, and as when you fallowed your land, you turned your furrowes downeward, so now in Summer-stirring, you shall turne your furrowes upward, and close the ridge of your land againe. As soone as this Ardor is finished, or when the unseasonableness of the weather, as either too much wet, or too much drinesse shall hinder you from ploughing, you shall then looke into your Corne fields, that is to say, first into your Wheat and Rye field, and if there you shall finde any store of weedes, as Thistle, Darnell,

Of weeding.

Tare, Cockle, or such like, you shall with weede-hookes, or nippers of wood, cut, or plucke them up by the rootes: and also if you finde any annoyance of stones, which hinders the growth of your Corne, as generallie when it happens in this soyle, you shall then cause some Boyes and Girles, or other waste persons, to gather them up, and lay them in heapes at the lands ends, to bee employed either about the mending of high wayes or other occasions, and for this purpose there is a generall custome in most Villages, that every Household is bound to send out one servant to be employed about this businesse: whence it comes to passe, that it is called common worke, as being done at the generall charge of the whole Parish. After you have weeded your Wheat and Rye, you shall then weede your Barley also, which being finished about the midst of July, you shall then begin to looke into your Medowes, and to the preparing of your Hay-harvest.

Of stone gathering.

Of soyling.

Now at such time as either the unseasonableness of the weather, or the growth of your grasse shall hinder you from

from following that businesse of Harvest, you shall then Locke into your fallow or tilth field againe, and whereas before at your Summer-stirring you ploughed your land upward; now you shall begin to foile, that is to say, you shall cast your land againe, and open the ridge: and this Ardor of all other Ardors you must by no meanes neglect upon the gray, white Clay, because it being most subject unto weede, and the hardest to bring to a fine mould, this Ardor of all others, doth both consume the one, and makes perfect the other, and the drier Season you doe foile your land in, the better it is, and the more it doth breake and sunder the clots in pieces: for as in Summer-stirring the greater clots you raise up, and the rougher your land lies the better it is, because it is a token of great store of mould; so when you foile, the more you breake the clots in pieces, the better season will your land take, and the richer it will be when the seede is sowne into it: And the season for the foiling of this soile is from the midst of July till the midst of September.

Now albe I have omitted the Manuring of this land in his due place, as namely, from the midst of Aprill, till the end of May, yet you shall understand that of all other things it is not in any wise to bee neglected by the carefull *Husbandman*, both because the soyle being not so rich as the blacke Clay, will very hardly bring forth his seede without Manure, and also because it is for the most part subject unto much wet, and stones, both which are signes of cold and barrenesse. Now for those Manures, which are best and most proper for this soile, you shall understand that all those which I formerlie described for the blacke Claves, as namely, Oxe or Cowes dung, Horse dung and Sheepes dung, are also very good for this soile, and to be used in the same manner as is specified in the former Chapter: but if you have not such store of this Manure as will serve to compasse your whole land, you shall then understand, that the blacke mud, or durt which lies in the bottome of olde ponds, or else standing lakes, is also

Of Manuring.

a very good Manure for this soile, or else straw which is spread in high-ways, and so rotted by the great concourse or use of much travelling, and after in the Spring-time shovelled up in great heapes, is a good Manure for this earth: but if you finde this soile to be subject to extraordinary wet and coldnesse, you shall then know that the ashes either of wood, coale, or strawe, is a very good Manure for it. But above all other, and then which there is no Manure more excellent for cold and barraine clayes of this nature, the Pignons dung, or the dung of household Pullen, as Capons, Hennes, Chickins, Turkies, and such like, so there be no Goose-dung amongst it, is the best of all other: but not to be used in such sort as the other Manures, that is to say, to be laid in great heapes upon the land, or to be spread from the Cart upon the land, for neither is there such abundance of such Manure to be gotten, nor if there were, it would not be held for good Husbandrie to make lavish havock of a thing so precious.

The use of Pignon or Pullen-dung.

You shall then know that for the use of Pigion or Pullen-dung, it is thus: you shall first with your hand breake it as small as may bee, and then put it into the Hopper, in such sort as you put your Corne when you sowe it: and then looke how you sowe your Corne, in such sort you shall sowe your Pigion or Pullen-dung: which done, you shall immediately put your Barley into the same Hopper, and so sowe it after the Pignons or Pullen-dung: by which you are to understand that this kinde of manuring is to bee used onely in Seede-time, and at no other season. This Manure is of the same nature that sheepes Manure is, and doth last but onely for one yeere, onely it is much hotter, as being in the greatest extremitie of heat. Now if it happen that you cannot get any of this Pignons or Pullen-dung, because it is scarce, and not in everie mans power; if then you take Lime and sowe it upon your land in such sort as is before said of the Pignons-dung, and then sowe your Corne after it, you shall finde great profit to come thereon, especially in colde wet soiles, such

as for the most part, these gray white clayes are.

After your Land is soild, which worke would bee finished by the middest of September, then you shall begin to sowe your Wheat, Rye, and Maslin. which in all things must bee done as is before set downe for the blacke Clay, the choise of seede, and every obseruation being all one: for Wheat not taking delight in a very rich ground, doth prosper best upon this indifferent soile. Whence it comes that in these gray white clayes, you shall for the most part see more Wheat sowne, then any other Graine whatsoever. But as touching your Rye and Maslin, that ever desires a rich ground and a fine mould, and therefore you shall make choise of your better earth for that Seede, and also observe to helpe it with Manure, or else sheepes-folding, in such manner as is described in the former Chapter, where I spake of the sowing of Wheate, Rye, and Maslin.

Of sowing
Wheat.

As soone as you have sowne your Wheat, Rye, and Maslin, you shall then about the latter end of October, begin to Winter ridge, or set up your land for the whole yeere: which you shall doe in all points, as you doe upon the black Clay, without any change or alteration. And the limitation for this Ardor, is, from the latter end of October, untill the beginning of December, wherein your yeeres worke is made perfect and compleat.

Of Winter
ridging.

Now you shall understand, that although I have in this generall sort passed over the Ardors and severall Earnings of this white or gray Clay, any of which are in no wise to be neglected: yet there are sundrie other observations to be held of the carefull *Husbandman*, especially in the laying of his land: as thus, if the soile be of good temper, fruitfull, drie, and of a well mixed mould, not being subiect to any naturall Spring or casting forth of moisture, but rather through the native warmth, drying up all kinde of Fluxes or colde moistures, neither binding or strangling the Seede, nor yet holding it in such loosenesse, that it lose his force of encreasing, in this case it is best to lay your lands flat and

Observation.

and leuell, without ridges or furrowes, as is done in manie parts of Cambridge-shire, some parts of Essex, and some parts of Hartford-shire: but if the Clay bee fruitfull and of good temper, yet either by the bordering of great hills, the over-flow of small Brookes, or some other casuall meanes, it is subject to much wet or drowning, in this case you shall lay your lands large and high, with high ridges and deepe furrowes, as generally you see in Lincolne-shire, Nottingham-shire, Huntingdon-shire, and most of the middle Shires in England. But if the land be barraine, colde, wet, subject to much binding, and doth bring forth great store of weedes; then you shall lay your land in little stiches, that is to say, not above three or foure furrowes at the most together, as is generally seene in Middlesex, Hartford-shire, Kent, and Surrey: for by that meanes neither shall the land binde and choake the Corne, nor shall the weedes so overrunne it, but that the *Husbandman* may with good ease helpe to strengthen and cleanse it, the many furrowes both giving him many passages, whereby hee may correct those enormities, and also in such sort conveying away the water and other moistures, that there cannot bee made any land more fruitfull.

Of the Plough.

Now to speake of the Plough which is best and most proper for this gray or white Clay, of which wee now speake, you shall understand that it differeth exceeding much from that of which we spake concerning the blacke Clay: I, and in such sort, that there is but smal alliance or affinity between them: as thus for example:

First, it is not so large and great as that for the blacke Clay: for the head thereof is not above twentie inches in length, and not above one inch and a halfe in thicknesse, the maine beame thereof is not above five foote long, and the rest is broader by an inch and more then that for the blacke Clay: this Plough also hath but one hale, and that is onelie the left hand Hale: for the Plough-staffe, or Aker-staffe serveth ever in stead of the right hand Hale, so that the Rough-staves are fixed, the upper unto the shel-

shel-board, and the neather unto the Plough-rest, as for your better understanding you may perceive by this figure.

The Plough with one Hale.



Now you shall understand that the especial care which is to be held in the making of this Plough, is, that it be wide and open in the hinder part, that it may turne and lay the furrowes one upon another: whereas if it should bee any thing straightned in the hinder part, considering that this Clay naturally is somewhat brittle of it selfe, and that the furrowes which you plough must of necessitie be very narrow and little, it were not possible so to lay them, but that they would fall downe back againe, and inforce the Ploughman to lose his labour. Also you shall understand that whereas in the former Plough, which is for the blacke Clay, you may turne the shel-board, that is, when the one end is worne, you may eft-soones turne the other, and make it serve the like season: in this Plough you must never turne the shel-board, because the rising wing of the Share will so defend it, that it will ever last as long as the Plough-head, without change or turning.

Now for the Irons belonging unto this Plough, which is the Share and Coulture, there is more difference in them then in the Plough: for to speake first of the Share, whereas the former Share for the blacke Clay, was made broad, plaine, and with a large wing, this Share must bee made narrow, sharpe, and small, with no wing at all, having from the upper part thereof, close by the shelboard, a certaine rising wing, or broad piece of Iron, which comming up, and arming that part of the shelboard which turnes over the land, defends the wood from the sharpe mould, which having the mixture of pible stone in it, would otherwise in lesse then one dayes worke consume the shelboard unto nothing, forcing the Plough-man to much trouble and double cost. The fashion of the Share is presented in this Figure following.

The Share.

This Share is onely made that it may take a small furrow, and so by breaking the earth oftner then any other Share, causeth the land to yeeld a good and plentifull mould, and also keepes it from binding or choaking the feed when it is cast into it.

Now for the Coulture, it differeth from the former Coulture both in breadth and thicknesse, but especially in compasse: for whereas the former Coulture for the blacke Clay, was made straight, narrow, and thicke, this must be compassed like an halfe bent bow: it must be broader then three fingers, and thinner then halfe an inch, according to this Figure.

The

The Coultre.

Now when these Irons, the Shelboard, and other implements are fixed unto the Plough, you shall perceive that the Plough will carry the proportion of this Figure following.

The Plough for the gray Clay.

Having thus shewed you the substance, difference, and contraries of these two Ploughes, which belong to these two severall Clayes, the blacke and gray, you shall understand that there is no Clay-ground whatsoever, which is without other mixture, but one of these Ploughes will sufficiently serve to eare and order it: for all Clayes are of one of these tempers.

Now for the use and manner of handling or holding this Plough, it differeth nothing in particular observation from the use and handling.

the use and handling of the Plough formerly described, more then in the largenesse and finallnesse of the furrowes: for as before I said, whereas the blacke Clay must be raised with a great furrow, and a broad stich, this gray Clay must be raised with a small furrow, and a narrow stich: and although this Plough have nothing but a left hand Hale, yet considering the Plough-staffe, upon which the Plough-man resteth his right hand, it is all one as if hee had a right. And indeede, to make your knowledge of the matter perfect, you shall know that these gray Clayes are generally in their owne natures so wet, tough, and styanic, and doe so clogge, cleave, and choake up the Plough, that hee which holds it, shall have enough to do with his right hand onely to dense and keepe the Plough from choaking, insomuch that if there were another Hale, yet the Plough-man should have no leasure to hold it.

Of the draught
or Teame.

Now for the Draught or Teame which should draw this Plough, they ought in all points, as well in strength as trying to bee the same with those before shewed for the use of the blacke Clay: as namely, either Oxen or Horse, or Horse and Oxen mixt together, according to the custome of the Soile wherein the Plough-man lives, or his abilitie in provision, allowing ever to keepe his number of beasts for his Plough certaine, that is to say, for fallowing, and Pease-earth, never under five, and for all other Ardors foure at the least. And thus much for the ploughing of this gray or white Clay.

CHAP.

CHAP. X.

The manner of ploughing the red Sand, his Earnings, Plough, and Implements.

Ext unto these Claves, which are soiles simple and uncompound, as being perfect in their owne natures, without the helpe of other mixtures, I place the Sand soiles, as being of like quality, not borrowing any thing but from their owne natures, nor breeding any defects more then their owne naturall imperfections: and of Sands, first the red Sand is the best and most fruitfull, therefore it is first that it take priority of place, and be here first spoken of.

You shall then understand that this red Sand, albeit it is the best of Sands, yet it is the worst of many soiles, as being of it selfe of such a hot and dry nature, that it scorseth the seede, and drieth up that nutriment and fatnesse which should occasion encrease: whereby it comes to passe, that the Barley which growes upon this red Sand, is ever more yellow, leane and withered, then that which growes upon the Claves or other mixt earths. This Sand especially taketh delight in Rye, because it is a Graine which loves warmth above all other; and yet notwithstanding, if it be well ordered, manured and ploughed, it will bring forth good store of Barley, albeit the Barley be not so good as Clay-Barley, either for the colour, or for the yeeld, whether it bee in Meale or in Malt.

Now for the manner of Earing or ploughing this red Sand, it differeth much from both the former soyles, inso-much that for your better understanding, I must in many places alter my former methode, yet so little as may be, because I am loath to alter or clog the memory of the Reader: wherefore to pursue my purpose. As soone as Christmas is ended, that is to say, about the middest of January, you shall goe with your Plough into that field where, the Harvest be-

Of fallowing.

fore, did grow your Rye, and there you shall in your ploughing cast your lands downe-ward, and open the ridges well, for this yeere it must be your fallow field: for as in the former soiles, we did divide the fields either into three parts, that is, one for Barley and Wheate, another for Pease, and the third fallow, which is the best division: or into foure parts, that is, one for Wheat and Rye, another for Barley, a third for Pease, and a fourth fallow, which is the worst division and most toilesome, so in this red Sand soile, wee must ever divide it into three parts, that is, one for Barley, another for Rye, and a third fallow. For this Sand-soile being hot, drie, and light, will neither bring forth good Beanes nor good Pease, and therefore that Ardor is in this place but onely to be spoke of by way of discourse in urgent necessity.

Wherefore (as before I said) about the middest of Januarie you shall begin to lay fallow that field, where formerly did growe your Rye, the manner of ploughing whereof differeth nothing from the manner of ploughing the Claves before written of, onely that the discretion of the Plough-man must thus farre forth governe him, that in as much as this soile is lighter, dryer, and of a more loose temper, by so much the more hee must be carefull to make his furrowes lesse, and to lay them the closer together: and also in as much as this soile, through his naturall warmth and temperate moisture, is exceeding apt to bring forth much weede, especially Brakes, Ling, Brambles, and such like, therefore the Plough-man shall bee very carefull to plough all his furrowes very cleane, without baukes or other impediments by which may be ingendred any of these inconveniences.

After you have thus broke up and fallowed your fallow or tilth-field, the limitation of which time is from the middest of Januarie untill the middest of Februarie, you shall then at the middest of Februarie, when the Clay-men begin to sowe their Beanes and Pease, goe with your Plough into your other fallow-field, which all the yeere before hath laine fallow

Of Spring-
fowling.

fallow, and already received at your hands at least foure severall Ardors; as Fallowing, Summer-stirring, Foyling, and Winter-ridging; and there you shall plough all that field over the fift time, which is called the Spring-foyling: and in this Ardor you shall plough all your lands upward, in such sort as when you Winter-ridge it, by which meanes you shall plough up all those weedes which have sprung forth in the Winter season. For you must understand that in these light, hot, sandy soiles, there is a continuall spring (though not of good fruits) yet of weeds, quicks, and other inconveniences: for it is a rule amongst *Husbandmen*, that warme soiles are never idle, that is, they are ever bringing forth something.

Now the limitation for this Ardor is from the middest of Februarie untill the middest of March, at which time you shall, by comparing former experience with your present judgement, take into your consideration the state, goodnesse, and powerfullnesse of your land, I meane especially of this fallow-field, which hath laine fallow the yeere before, and hath now received five Ardors: and if you finde any part of it, either for want of good ordoring in former times, or for want of Manure in the present yeere, to bee growne so leane and out of heart, that you feare it hath not strength enough to beare Barley, you shall then at this time, being the middest of March, sowe such land with Rye, which of *Husbandmen* is called the sowing of March-Rye: and this Rye is to bee sowne and harrowed in such sort as you did sowe it upon the Clay soiles, that is to say, above furrow, and not under furrow, except the land be very full of quickes, that is, of Brakes, Ling, Brambles, Dockes, or such like, and then you shall first with a paire of Iron Harrowes, that is, with Harrowes that have Iron teeth, first of all harrow the land over, and by that meanes teare up by the rootes all those quickes, and so bring them from the land: which done, you shall sowe the land over with Rye, and then plough it downeward which is under furrow: and as soone as it is ploughed, you shall then with a paire of Iron Harrowes

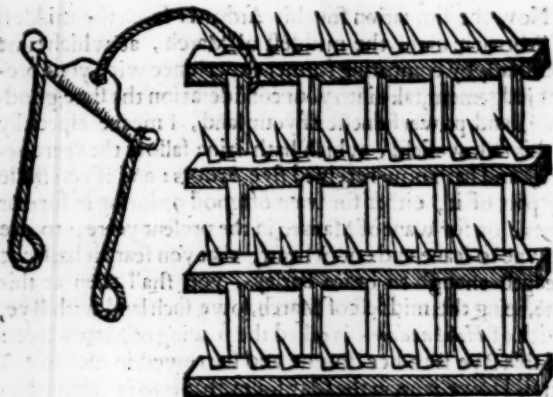
Of Sowing
March-Rye.

Harrowes harrow it all over so exceedingly, that the mould may bee made as fine, and the land lie as smooth as is possible.

Of the Harrow.

Now because I have in the former Chapters spoke of Harrowes and harrowing, yet have not delivered unto you the shape and proportion thereof, and because both the wooden Harrow and the Iron Harrow have all one shape, and differ in nothing but the teeth onely, I thinke it not amisse before I proceede any further to shew you in this Figure the true shape of a right Harrow.

The Harrow.



The parts of this Harrow consisteth of buls, staves, and teeth: of buls, which are broad thicke pieces, either of well seasoned Willow, or Sallow, being at least three inches every way square, into which are fastned the teeth: of staves, which are round pieces of well seasoned Ash, being about two inches and a halfe about, which going thorough the buls, holde the buls firmly in equal distance one from the other: and of teeth, which are either long pinnes

of

of wood or Iron, being at least five inches in length, which are made fast, and set slope-wise through the buls.

Now you shall understand that Harrowes are of two kinds, that is, single and double : the single Harrow is called of *Husbandmen* the Horse-Harrow, and is not above foure foote square : the double Harrow is called the Oxeharrow, and it must be at least seaven foote square, and the teeth must ever be of Iron. Now whereas I spake of the Horse-harrow and the Oxeharrow, it is to be understood that the single Harrow doth belong to the Horse, because Horses drawing single, doe draw each a severall Harrow by himselfe, albeit in the common use of harrowing, we couple two horses ever together, & so make them draw two single Harrowes : but Oxen not being in good Husbandrie to bee separated, because ever two must draw in one yoeake, therefore was the double Harrow devised, containing in substance and worke as much as two single Harrowes.

The diversitie
of Harrowes,

Now for the use of Harrowes. The wooden Harrow which is the Harrow with wooden teeth, is ever to bee used upon clay grounds and light grounds, which through drinesse doth growe loose, and falls to mould of it owne nature, as most commonly Sand grounds doe also : and the Iron Harrow which is the Harrow with Iron teeth, is ever to be used upon binding grounds, such as through drinesse growe so hard that they will not be sundered, and through wet turne soone to mire and loose dirt. Now whereas there be mingled earths, which neither willingly yeeld to mould, nor yet bindes so sore, but small industry breaks it, of which earth I shall speake hereafter, to such grounds the best Husband use a mixture, that is to say, one wooden Harrow, and one Iron Harrow, that the wooden Harrow turning over, and loosening the loosest mould, the Iron Harrow comming after, may breake the stiffer clots, and so consequently turne all the earth to a fine mould. And thus much for Harrowes.

The use of
Harrowes,

Now to returne to my former purpose touching the til- Of the sowing
lage of this red Sand : if (as before I said) you finde any of Pulse,

Of Pease, Lentles,
and Lupines.

part of your fallow-field too weake to beare Barley, then is your March-Rye, a graine which will take upon a harder earth: but if the ground be too weake either for Barley or Rye, (for both those Seedes desire some fatnesse of ground) then shall you spare ploughing it at all untill this time of the yeere, which is mid-March, and then you shall plough it, and sowe it with either the smallest Pease you can get, or else with our true English Fitches, which by forraine Authors are called *Lentles*, that is, white Fitches, or *Lupines*, which are red Fitches: for all these three sorts of Pulse will growe upon very barraine soiles, and in their growth doe Manure and make rich the ground: yet your Pease desire some heart of ground, your *Lentles*, or white Fitches, lesse, and your *Lupines*, or red Fitches, the least of all, as being apt to growe upon the barrainest soile: so likewise your Pease doe Manure barraine ground well, your *Lentles* better, and your *Lupines* the best of all.

Now for the nature and use of these graines, the Pease as all *Husbandmen* know, are both good for the use of man in his bread, as are used in Leicester-shire, Lincolne-shire, Nottingham-shire, and many other Countries: and also for Horses in their Provender, as is used generally over all England: for *Lentles*, or white Fitches, or the *Lupines* which are red Fitches, they are both indifferent good in bread for man, especially if the meale bee well-scalded before it bee knodden (for otherwise the savour is exceeding ranke) or else they are a very goodd foode being sodden in the manner of Leape-Pease, especially at Sea, in long journeyes where fresh meate is most exceeding scarce: so that rather then your land should lye idle, and bring forth no profit, I conclude it best to sowe these Pulses, which both bring forth commodity, and also out of their owne natures doe Manure and enrich your ground, making it more apt and fit to receive much better Seede.

For the manner of sowing these three sorts of Pulse, you shall sowe them ever under furrow, in such sort as is deseribed for the sowing of Pease and Beanes upon the white.

white or gray Clay, which is of indifferent driness, and apt to breake.

Now the limitation for this Ardor or seede time, is from Of Manuring. the middest of March, till the middest of Aprill : then from the middest of April, till the middest of May, you shall make your especiall worke, to be onely the leading forth of your Manure to that field which you did fallow, or lay tilth that present yeere immediately after Christmas, and of which I first spake in this Chapter. And herein is to bee understood, that the best and principallest Manure for this red-sand, is the oldest Manure of beasts which can bee gotten, which you shall know by the exceeding blacknesse and rottennesse thereof, being in the cutting both soft and smooth; all of one substance, as if it were well compact mortar, without any shew of strawe or other stufte which is unrotted, for this dung is of all the fattest and coolest, and doth best agree with the nature of this hot sand. Next to the dung of beasts, is the dung of Horses if it bee olde also, otherwise it is somewhat of the hottest, the rubbish of old houses, or the sweepings of floores, or the scow-rings of old Fish-ponds, or other standing waters where beasts and horses are used to drinke, or be washt, or whereunto the water and moisture of dunghills have recourse, are all good Manures for this red-sand : as for the Manure of Sheepe upon this red-sand, it is the best of all in such places as you meane to sowe Rye, but not fully so good where you doe intend to sowe your Barley : if it be a cold moist red sand (which is seldome found but in some particular low Countries) then it doth not amisse to Manure it most with Sheepe, or else with Chaulke, Lyme, or Ashes, of which you can get the greatest plentie : if this soile bee subject to much weede and quickes, as generally it is, then after you have torne up the weedes and quickes with Harrowes, you shall with rakes rake them together, and laying them in heapes upon the land, you shall burne them, and then spreading the ashes, they will be a very good Manure, and in short space destroy the weedes also;

likewise if your land bee much overgrowne with weedes, if when you sheare your Rie you leave a good long stubble, and then mowing the stubble, burne it upon the land, it is both a good Manure, and also a good meanes to destroy the weedes.

Of sowing
Barley.

After your Manure is led forth, and either spread upon the lands, or set in great heapes, so as the land may be covered over with Manure (for it is to bee observed that this soile must bee thoroughly Manured) then about the middest of May, which is the time when this work should be finished, you shall repaire with your Plough into the other fallow field, which was prepared the yeere before for this yeeres Barley, and there you shall sowe it all over with Barley above furrrow, that is to say, you shall first plough it, then sowe it, and after harrow it, making the mould as fine and smooth as may be, which is done with easie labour, because this sand of it owne nature is as fine as ashes.

Now the limitation for this seede time, is from the middest of May, till the middest of June, wherein if any man demand why it should not bee sowne in March and Aprill, according as it is sowne in the former soiles, I answer, that first this red sand cannot bee prepared, or receive his full season in weather, and earings, before this time of the yeere; and next that these red sands, by how much they are hotter and drier then the other Clayes, by so much they may well stay the longer before they receive their seede, because that so much the sooner the seede doth sprout in them, and also the sooner ripen being kept warmer at the roote then in any cold soile whatsoever. As soone as the middest of June approacheth, you shall then begin to Summer-stirre your fallow field, and to turne your Manure into your land, in such sort as you did upon your Clay soiles, for this Ardor of Summer-stirring altereth in no soile, and this must be done from the middest of June, till the middest of July, for as touching sleighting, clotting, or smoothing of this Barley field, it is seldome in use, because the fineness of the sand will lay the land smooth enough without sleighting :

Of Summer-
stirring.

Of sleighting.

steighting: yet if you finde that any particular land lieth more rough then the rest, it shall not be amisse, if with your back Harrowes you smoothe it a little within a day or two after it is sowne.

From the middest of July untill the middest of August, Of Foiling. you shall foile and throw downe your fallow field againe, if your lands lie well and in good order, but if any of your lands doe lie in the danger of water, or by use of ploughing are growne too flat, both which are hinderances to the growth of Corne, then when you foile your lands you shall plough them upward, and so by that meanes raise the ridges one furrow higher. After you have foiled your land, which Of sowing must be about the middest of August, then will your Barley Rye. be ready to mowe, for these hot soiles have ever an early Harvest, which as soone as it is mowne and carried into the Barne, forth-with you shall with all expedition carrie forth such Manure as you may conveniently spare, and lay it upon that land from whence you received your Barley, which is most barraine: and if you want Cart Manure, you shall then lay your fould of Sheepe thereupon, and as soone as it is Manured, you shall immediatly plough both it and the rest, which Ardor should bee finished by the middest of September, and so suffered to rest untill the beginning of October, at which time you shall begin to sowe all that field over with Rye in such sort as hath beene spoken of in former places.

Now in as much as the ignorant *Husbandman* may verie easily imagine that I reckon up his labours too thicke, and therein leave him no leasure for his necessarie busineses, especially because I appoint him to foile his land from the middest of July, till the middest of August, which is both a busie time for his Hay-Harvest, and also for his Rye shearing. Objection.

To this I make answer, that I write not according to Answer. that which poore men are able (for it were infinite to looke into estates) but according as every good Husband ought, presupposing that hee which will live by the Plough, ought

to pursue all things belonging unto the Plough, and then he shall finde that there is no day in the yeere, but the Sabbath, but it is necessary that the Plough be going: yet to reconcile the poore and the rich together, they shall understand, that when I speake of ploughing in the time of Harvest, I doe not meane that they should neglect any part of that principall worke, which is the true recompence of their labour: but because whilst the dewe is upon the ground, or when there is either raine or mizling, there is then no time for Harvest worke, then my meaning is, that the carefull Husbandman shall take those advantages, and rising earlier in the mornings, be sure to be at his Plough two houres before the dewe bee from the ground, knowing that the getting but of one houre in the day compasseth a great worke in a moneth, neither shall hee neede to feare the over-toiling of his cattell, sith at that time of the yeere grasse being at greatest plenty, strongest and fullest of heart, Corne scattered almost in every corner, and the mouth of the beast not being muzzled in his labour, there is no question but hee will endure, and worke more then at any other season.

Of Winter-
ridging.

In the beginning of November, you shall begin to Winter-ridge your fallow, or tilth field, which in all points shall bee done according to the forme described in the former soiles: for that Ardor of all other never altereth, because it is as it were a defence against the latter Spring, which else would fill the lands full of weedes, and also against the rigour of Winter, and therefore it doth lay up the furrow close together, which taking the season of the frost, winde, and weather, makes the mould ripe, mellow, and light: and the limitation for this Ardor, is from the beginning of November, untill the middest of December.

Of the Plough.

Now as touching the Plough which is best and most proper for this red-sand, it differeth nothing in shape and composition of members from that Plough which is described for the blacke Clay, having necessarily two Hales, because the ground being loose and light, the Plough will with great difficultie

difficultie hold land, but with the least disorder bee ever ready to runne into the furrow, so that a right hand HALE is most necessary for the holding of the Plough even, onely the difference of the two Ploughes consisteth in this, that the Plough for this red-sand, must bee much lesse then the Plough for the blacke Clay, holding in the sizes of the timber the due proportion of the Plough for the white or gray Clay, or if it be somewhat lesse, it is not amisse, as the head being eighteene inches, the maine beame not above foure foote, and betweene the hinder part of the rest, and the outmost part of the Plough-head in the hinder end not above eight inches.

Now for the Plough-Irons which doe belong unto this Plough, the Coulture is to be made circular, in such proportion as the Coulture for the gray, or white Clay, and in the placing, or tempering upon the Plough, it is to be set an inch at least lower then the Share, that it may both make way before the Share, and also cut deeper into the land, to make the furrow have more easie turning.

Of the Coulture.

Now for the Share, it differeth in shape from both the former Shares, for it is neither so large nor out-winged, as that for the gray Clay, for this Share is onely made broad to the Plough ward, and small to the point of the Share, with onely a little peake and no wing according to this figure.

Of the Share.

The Share.



These Plough-Irons, both Coulture and Share, must bee well steeled and hardned at the points, because these sandie soiles being full of moisture and greete, will in short space weare and consume the Irons, to the great hinderance and

Of the Plough-
slip.

and cost of the *Husbandman*, if it be not prevented by Steele and hardning, which notwithstanding wil wast also in these soiles, so that you must at least twise in every Ardor have your Irons to the Smith, and cause him to repaire them both with Iron and Steele. Besides these Irons, of Coulture and Share, you must also have a long piece of Iron, which must be just of the length of the Plough head, and as broad as the Plough head is thick, and in thicknesse a quarter of an inch: and this piece of Iron must be nailed upon the out-side of the Plough head, next unto the land, onely to save the Plough head from wearing, for when the Plough is worne, it can then no longer hold the land, and this piece of Iron is called of *Husbandmen* the Plough-slip, and presenteth this figure.

The Plough-slip.



Of Plough-
clouts.

Over and besides this Plough-slip, there are certaine other pieces of Iron, which are made in the fashion of broad thinne Plates, and they be called Plough Clouts, and are to be nailed upon the shelboard, to defend it from the earth or furrow which it turneth over, which in very short space would weare the wood, and put the *Husbandman* to double charge.

The holding of
the Plough.

Thus having shewed you the parts, members, and implements, belonging to this Plough, it rests that I proceede unto the teame or draught: for to speake of the use and handling of this Plough, it is needlesse, because it is all one with those Ploughes, of which I have spoken in the former Chapters, and hee which can hold and handle a Plough in stiffe Clayes must needes (except hee be exceeding simple) hold a Plough in these light sands, in as much as the worke is much more easie, and the Plough a great deale lesse chargeable.

Now

Now for the Draught or Teame, they ought to bee as in the former Soiles, Oxen or Horses, yet the number not so great: for foure Beasts are sufficient to plow any Ardor upon this soile, nay, three Horses if they bee of reasonable strength, will doe as much as fixe upon either of the Clay-soiles: as for their attire or Harnessing, the Bearegears, before described, are the best and most proper. And thus much concerning this red Sand, wherein you are to take this briefe observation with you, that the Graines which are best to be sowne upon it, are onely Rye, Barley, small Pease, *Lentiles* and *Lupines*, otherwise called *Fitches*, and the graines to which it is aduerse, are Wheat, Beanes and Maslin.

Of the
Draught.

CHAP. XI.

The manner of plowing the white Sand, his Earing, Plough and Implements.

NExt unto this red Sand, is the white Sand, which is much more barraine then the red Sand, yet by the industry of the Husbandman in plowing, and by the cost of Manure it is made to beare corne in reasonable plenty. Now of white Sands there be two kindes, the one a white Sand mixt with a kinde of Marle, as that in *Norfolke*, *Suffolke*, and other such like places butting upon the Sea-coast: the other, a white Sand with Pible, as in some parts of *Surrey*, about *Ancaster* in *Lincolneshire*, and about *Salisbury* in *Wiltshire*.

Now for this white Sand with Pible, it is the barrainest, and least fruitfull in bringing forth, because it hath nothing but a hot dusty substance in it. For the manner of Earing thereof, it agreeth in all points with the redde Sand, the Ardors being all one, the Tempers, Manurings, and all other appurtenances: the Seede also which it delights in, is all one with the redde Sand, as namely, Rye, Barley, Pease and *Fitches*. Wherefore who so shall dwell upon such a soyle,

Of the white
Sand with Pi-
ble.

I must referre him to the former Chapter of the red Sand, and therein he shall finde sufficient instruction how to be- have himselfe upon this earth : remembering that in as much as it is more barraine then the red Sand, by so much it craveth more care and cost, both in plowing and manuring thereof, which two labours onely make perfect the ill ground.

Of the white
Sand with
Marle.

Now for the white Sand which hath as it were a cer- taine mixture, or nature of Marle in it, you shall under- stand, that albeit unto the eye it be more dry and dusty then the red Sand, yet it is fully as rich as the red Sand : for albe it doth not beare Barley in as great plenty as the red Sand, yet it beareth Wheate abundantly, which the red Sand seldome or very hardly bringeth forth.

Of Fallowing.

Wherefore to proceede to the Earings or tillage of this white Marly Sand, you shall understand, that about the mid- dest of *January* is fit time to beginne to fallow your field which shall be tith and rest for this yeare : wherein by the way, before I proceede further, you shall take this observa- tion with you, that whereas in the former soles I divided the fields into three and foure parts, this soile cannot con- veniently, if it be well husbanded, be divided into any more parts then two, that is to say, a fallow field, and a Wheate- field : in which Wheate-field, if you have any land richer then other, you may bestow Barley upon it, upon the se- cond you may bestow Wheate, upon the third sort of ground Rye, and upon the barrainest, Pease or Fitches : and yet all these must be sowne within one field, because in this white Sand, Wheate and Rye will not grow after Barley or Pease, nor Barley and Pease after Wheate or Rye. Your fields being then divided into two parts, that is, one for corne, the other for rest, you shall, as before I said, about the midst of *January* beginne to fallow your Tith-field, which in all observations you shall doe according as is men- tioned for the red Sand.

Of sowing
of Pease.

About the midst of *March*, if you have any barraine or wasted ground within your fallow field, or if you have any

any occasion to breake up any new ground, which hath not bene formerly broken up; in either of these cases you shall sow Pease or Pitches thereupon, and those Pease or Pitches you shall sow under furrow as hath bene before described.

About the middest of *April* you shall plow your fallow-field over againe, in such manner as you plowed when you fallowed it first: and this is called Spring-fallowing, and is of great benefit because at that time the weedes and quicke beginning to spring, may, to flourish; by reason that the heate of the time puts them forth sooner then in other soiles, if they should not be plowed up before they take too strong roote, they would not onely over-runne, but also eat out the heart of the Land.

Of Spring-fallowing.

About the middest of *May* you shall beginne to sow your Barley upon the richest part of your old fallow field, which at the *Misshelmas* before, when you did sow your Wheate, and Rye; and Maslin, you did reserve for that purpose: and this Barley you shall sow in such sort as is mentioned in the former Chapter of the red Sand, in so much that this Ardor being finished, which is the last part of your Seede-time, your whole field shall be furnished either with Wheate, if it hold a temperate fatnesse, or with Wheate and Barley, if it bee rich and richer; or with Wheate, Barley and Pulse, if it be rich; poore or extreame barraine: and the manner of sowing all these severall seeds is described in the Chapters going before.

Of sowing Barley.

About the middest of *June* you shall beginne to Summer-stirre your fallow-field, in such sort as was spoken of stirring in the former Chapters concerning the other soiles: for in this Ardor there is no alteration of method, but onely in government of the Plough, considering the heavinesse and lightnesse of the earth. During this Ardor you shall busily apply your labour in leading forth your Manure, for it may at great ease be done both at one season, neither the Plough hindering the Cart, nor the Cart staying the Plough: for this soile being more light and easie in worke

Of Summer-stirring.

then any other soile whatsoever, doth ever preserve so many Cattel for other employment that both works may go forward together, as shall be shewed when we come to speake of the Plough, and the Teame which drawes it.

Of Manuring.

Now as touching the Manures most fit for this soyle, they be all those of which we have formerly written, as he onely excepted, which being of an hot nature, doe scald the Seede, and detaine it from all fructifullnesse, being mixt with this hot soile, so is like wise Lyme, and the burning of stubble: other Manures are both good and occasion much fertility, as being of a binding and coole nature, and holding together that loosenesse which in his too much separation taketh all nutriment from the earth.

Of Weeding.

After you have ledde forth your Manure, and Summer-fird your Land, you shall then about the beginning of *July* looke into your Corne-field, and if you perceiue any Thistles, or any other superfluous weedes to annoy your Corne, you shall then (as is before said) either cut, or pick them up by the rootes.

Of Foyling.

About the middest of *August* you shall beginne to foile or cast downe your fallow field againe, and in that Andor you shall be very carefull not Plow cleane and leave no weedes uncut up: for in these hot soiles if any Weeds be left with the least roote, so that they may knit and bring forth feede, the annoyance thereof will remaine for at least foure yeeres after, which is a double fallowing. And to the end that you may cut up all such weeds cleane, although both your Share and Coulture misse them, you shall have the rest of your Plough in the under part which strokes alongst the earth filled all full of dragges of Iron, that is, of olde crooked nailes, or great tenter-hooks, such as upon the putting downe of your right hand when you come neere a weed shall catch hold thereof and teare it up by the rootes, as at this day is used by many particuler Husbands in this Kingdome, whose cares, skils, and industries are not inferior to the best whatsoever.

About the middest of *September*, you shall beginne to
fow.

sow your Wheate and Rye upon your fallow field, which
 Graue upon this soile is to be reckoned the most principall: Wheate and
 and you shall sow it in the same manner that is described
 in the former Chapters, wherein your especiallest care is
 the choise of your seede: for in this soile your whole straw
 Wheate, nor your great Pollard taketh any delight, nei-
 ther your Ogate, for all those three must have a fine
 and a strong mould: but your Ghiter wheate, your Flaxen-
 wheate, your white pollard, and your Red wheate, which
 are the Wheates which yield the purest and finest meale,
 (although they grow not in so great abundance) are the
 seedes which are most proper and natural for this soile. As
 for Rye or Maslin, according to the goodnesse of the ground,
 so you shall bestow your seede: for it is a generall rule, that
 where soever your Wheate growes, there will ever Rye
 grow, but Rye will many times grow where Wheate will
 not prosper: and therefore for the sowing of your Rye, it
 must be according to the temper of the earth, and the ne-
 cessity of your household: for Wheate being a richer graine
 then Rye, if you bee assured that your ground will beare
 Wheate well, it is small Husbandrie to sow more Rye or
 Maslin then for your house: but if it be too hot for Wheate,
 and kindly for Rye, then it is better to have good Rye, then
 ill Wheate. Now for the sowing of your Rye or Maslin in
 this soile, it differeth nothing from the former soiles, either
 in plowing or any other observation, that is to say, it must
 be plowed above furrow: for Rye being the most tender
 graine, it can neither abide the weight of earth, nor yet
 moisture; the one, as it were, burying, and the other drown-
 ing the vigour and strength of the seede.

About the beginning of November, you shall Winter-
 ridge your fallow field, I meane that part which you doe
 preserve for Barley (for the other parts are furnished with
 seede) and this Winter-ridging differeth nothing from the
 Winter ridging of other soiles, onely you shall a little more
 precisely observe to set up your Lands more straight and
 high then in other soiles, both to defend them from wet,

Of Sowing
 Wheate and
 Rye.

The choice of
 Seede to sow
 in this soile

Of Winter-
 ridging.

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which this soile is much subiect unto; because commonly some great river it neere is, and also for the preserving of the strength and goodnesse of the Manure within the land which by lying open and unclosed would soone be waist forth and consumed.

Of the cleaning of lands; or drawing of water-furrows.

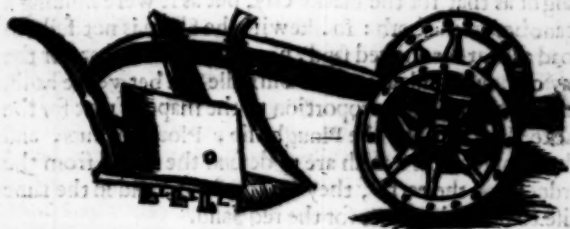
Now first I have here occasion to speake something of the drawing of lands and the keeping of them from the annoyance of superfluous water whether it bee by inundation or otherwise, you shall understand that it is the especial office and duty of every good Husbandman, not onely in this soile, but in all other whatsoever to have principall respect to the keeping of his land dry; and to this end he shall diligently (as soon as he hath Winter-rigged his land) take a carefull view how his Lands lye, which way the descent goes, from whence annoyance of water may possibly come, and so consequently from those observations, with a Spade or strong Plough, of extraordinary greatnesse, draw certaine deepe furrowes from descent into descent, by which means all the water may be conveyed from his lands; either into some common Sewer, Lake, Brooke, or other maine river: and to this end, it is both a rule in the common Lawes of our Land, and a laudable custome in the Common-wealth of every Towne, that for as much as many Townes have their Lands lye in common, that is to say, mixed neighbor with neighbor, few or none having above two or three lands at the most lying together in one place, therefore every man shall joyne, and make their water-furrowes one from another, untill such time as the water bee conveyed into some common issue, as well he whose lands lye without all danger, as hee that is troubled with the greatest annoyance, and herein every one shall beare his particular charge: which is an Act of great vertue and goodnesse.

Of the plough.

Now for the Plough which is to plow this white sand it doth differ nothing in size, proportion, and use of handling from the Plough described for the red Sand, onely it hath one addition more, that is to say, at the farther end of the maine Beame of the Plough, where you fixe your Plough.

Plough-foot, there you shall place a little paire of round wheels, which bearing the Beame upon a loose moving Axletree, being just the length of two furrows and no more, doth so certainly guide the Plough in his true furrow that it can neither lose the land by swerving (as in these light soiles every Plough is apt to doe) nor take too much land, either by the greedinesse of the Plough, or sharpnesse of the Irons, neither can it drowne through the easie lightnesse of the earth, nor run too shallow through the fustinesse of the mould, but the wheels being made of a true proportion, which should not be above twelve inches from the centre, the Plough with a reasonable hand of government shall runne in a direct and even furrow: the proportion of which Plough is contained in this Figure.

The Plough with Wheelles.



This Plough of all others I hold to bee most ancient, and as being the modell of the first invention, and at this day is preserved both in *France, Germany, and Italy*, and no other proportion of Ploughes knowne, both as we perceive by our experience in seeing them plow, and also by reading of their writings: for neither in *Virgil, Columella Xenophon*, nor any old Writer; nor in *Heresbachius, Stevens*, nor *Libault*,

Dibault, being later Writers, finde wee any other Plough bequeathed unto our memories. Yet it is most certaine, that in many of our English soiles, this Plough is of little profit, as we finde by daily experience both in our clayes, and many of our mixt earths: for in truth this Plough is but onely for light, sandy, or gravelly soiles, as for the most part these forraine Countries are, especially about the sea-coast, or the borders of great Cities, from whence these Writers most generally tooke the presidents for their writings.

Of the plough.
Irons.

Now for the parts of this Plough, it consisteth of the same members which the former Ploughs doe, onely that in stead of the Plough-foote, it hath a paire of wheeles. It hath also but one Hale, in such sort as the Plough for the gray or white clay. The beame also of this Plough is much more straight then the former, by which meanes the Skeath is not full so long. The Irons belonging unto this plough are of the fashion of the former Irons, onely they be somewhat lesse, that is to say, the Coulture is not so long, neither so full bent as that for the red Sand, nor so straight as that for the blacke clay, but as it were holding a meane betwene both: so likewise the Share is not fully so broad as that for the red sand, nor so narrow as that for the gray clay, but holding a middle way betwene both, for the share being in proportion to the shape of that for the blacke clay. As for the Plough-slip, Plough-clouts, and other implements which are to defend the wood from the hardness of the earth, they are the same, and in the same wise to be used as those for the red Sand.

Of the
Draught.

Now for the Draught or Teame which drawes this Plough, they are as in all other Draughts, Oxen or Horses, but for the number thereof they differ much from those which are formerly written of: for you shall understand that in this white sandy soile, which is of all soiles the lightest, either two good Horses, or two good Oxen are a number sufficient to plow any Ardor upon this soile whatsoever, as by daily experience we may see in those countries whose
soile

soile consists of this white light Sand, of which wee have now written: neither shall the Plow-man upon this soile neede any person to drive or order his Plough more then himselfe: for the soile being so light and easie to cut, the Plough so nimble, and the Cattell so few and so neere him, having ever his right hand at libertie (because his Plough hath but onely a left hand Hale) hee hath liberty ever to carry a goade or whip in his right hand, to quicken and set forward his Cattell, and also a line which being fastned to the heads of the Beasts, he may with it ever when he comes to the lands end, stop them and turne them upon which hand he pleases. And thus much for the tillage and ordering of this white Sand.

CHAP. XII.

The manner of plowing the mixt and compounded earthes, and first of the Gravell with Pible stones, or the Gravell with Flint, their Earings, Plough, and Implements.

HAVING in the plainest manner I can, written sufficiently already of the foure simple and uncompounded soiles, to wit, two Claves, blacke and gray, and two Sands, red and white, it now rests that I also give you some perfect touch or taste of the mixt or compounded soiles, as namely, the gravell which is a kinde of hard sand, clay and stone mixt together: and of Gravels there bee two Kindes, that is to say, one that is mixt with little small Pible stones, as in many parts of *Middlesex*, *Kent*, and *Surrey*: and the Gravell mixt with broad Flints, as in many parts of *Hartford-shire*, *Essex*, and sundry such places. These Gravels are both, in generall, subject to much barrainnesse, especially if they be accompanied with any extraordinarie moysture, yet with the good labour of plowing, and with the cost of much Manure, they are brought

brought to reasonable fruitfulness, where it comes to passe that the Plow-man which is master of such a soile, if either he live not neere some Citie or Marker-towne, where great store of Manure, by the concourse of people, is daily bred, and so consequently is very cheape, or else have not in his owne store and breede, meanes to raise good store of Manure, hee shall seldome thrive and prosper thereupon. Now although in these gravell soiles there is a diversity of mixture, as the one mingled with small Pibbles, which indeede is the worst mixture, the other with broad Flints, which is the better signe of fruitfulness: yet in their order of tillage or Earings, in their weeding and cleansing, and in all other Ardors and observations, they differ nothing at all, the beginning and ending of each severall worke being all one.

Now for the manner of worke belonging unto these two soiles, it altereth in no respect nor observation either in Plough, plowing, manuring, weeding, or any other thing whatsoever, from that of the white sand, the same times of the yeare, the same Seedes, and the same Earings being ever to be observed: wherefore it shall be needlesse to write so amply of these soiles as of the other, because being all one with the white Sand, without alteration, it were but to write one thing twice, and therefore I referre the Reader to the former Chapter, and also the Husbandman that shall live upon either of these soiles, onely with these few caveats: First, that for the laying his lands, hee shall lay them in little small stiches, that is, not having above foure furrowes laid together, as it were for one land, in such sort as you see in *Hartford-shire, Essex, Middlesex, Kent, and Surrey*: for this soile being for the most part subject to much moisture and hardness, if it should bee laid in great lands, according to the manner of the North-parts, it would over-burden, choak and confound the seed which is thrown into it. Secondly, you shall not goe about to gather off the stones which seeme as it were to cover the lands, both because the labour is infinite and impossible, and also because
those

those stones are of good use, and as it were a certaine Manuring and helpe unto the ground: for the nature of this Gravell being cold and moist, these stones doe in the winter time, defend and keepe the sharpnesse of the Frosts and bleake windes from killing the heart or roote of the seedes, and also in the Summer it defends the scorching heate of the Sunne from parching and drying up the Seede, which in this gravelly soile doth not lye so well covered as in other soiles, especially if this kind of earth bee invironed with any great hils (as most commonly it is) the reflection whereof makes the heate much more violent. And lastly, to observe that there is no Manure better or more kindly for this kinde of earth then Chaulke, white Marle, or Lyme: for all other matters whatsoever the former Chapter of the white Sand, will give you sufficient instructions.

CHAP. XIII.

The manner of plowing the blacke Clay mixt with red Sand, and the white Clay mixt with white Sand, their Earings, Plough, and Implements.

NExt to these gravelly soiles, there bee also two other compounded earths, as namely, the blacke Clay mixt with red Sand, and the white Clay mixt with white Sand, which albe they differ in composition of mould, yet they hold one nature in their Tillage and Husbandrie: wherefore first to speake of the blacke Clay mixt with red Sand, which (as before I said) is called of Husbandmen an hassell earth, you shall understand that it is very rich and good soile, very fruitfull both for Corne and Grasse: for Corne, being apt to beare any seede whatsoever; and for Grasse, as naturally putting it forth very early in the yeare, by which your Cattrell shall get reliefe sooner then in other soiles of colder nature: for both the blacke and white Clayes doe seldome flourish with

any store of Grasse before *June*, which is the time of wood-seare, and this soile will boast of some plenty about the beginning of *April* at the furthest: but for Grasse, we shall speake in his proper place.

Of fallowing.

Now for his tillage it is thus: you shall about the midst of *Iannary*, beginne to fallow that field which you intend that yeare shall lye at rest or tilth, and you shall fallow it in such sort as is specified in the Chapter of the blacke clay: onely you shall take small furrowes and plow the land cleane, being sure to open and cast the land downeward if the land lye high and round, otherwise you shall never at any time cast the land downe but ridge it up, that is to say, when you fallow it, you shall cast the first furrow downeward, and so likewise the second, which two furrowes being cleane ploughed, will lay the land open inough, that is, there will be no part of the ridge unploughed: which done, by changing your hand and the gate of your Plough, you shall plow those furrowes backe againe and lay them upward, and so plough the whole land upward, also laying it round and high: the reason for this manner of plowing being this, that for as much as this land being mixt of clay and sand, must needes be a fore-binding land, therefore if it should be laid flat, if any great raine or wet should fall, and a present drought follow it, neither should you possibly force your Plough to enter into it, and breake it, or being broken should you get so much mould as to cover your Corne and give the seede comfort; whereas upon the contrary part, if it bee laid high and upright, it must necessarily bee laid hallow and light, in so much that you may both plough it at your pleasure, and also beget so perfect a mould as any other soile whatsoever, both because the wet hath liberty to avoide through the hollownesse, and also because the Sunne and weather have power to enter and season it, wherefore in conclusion you shall fallow this field downeward if it lie high and upright, otherwise you shall fallow it upward as the meanes to bring it to the best Ardor.

Now

Now for this fallow field, it must ever bee made where the year before you did reape your Pease, in case you have but three fields, or where you did reape your Wheat, Rye, and Maslin, in case you have foure fields, according to the manner of the blacke clay.

About the middest of February, which is within a day or two of Saint *Valentines* day, if the season bee any thing constant in fairenesse and drinesse, you shall then beginne to sowe your Pease: for you must understand, that albeit this soyle will beare Beanes, yet they are nothing so naturall for it as Pease, both because they are an hungry feed, and doe much impayre and waste the ground, and also because they prosper best in a fat, loose, and tough earth, which is contrary to this hard and drie soyle: but especially if you have foure fields, you shall forbear to sowe any Beanes at all, lest you lose two commodities, that is, both quantitie of graine, (because Beanes are not so long and fruitfull upon this earth, as upon the clayes) and the Manuring of your ground, which Pease out of their owne natures doe, both by the smothering of the ground, and their owne fatnesse, when your Beanes doe pill, and sucke the heart out of the earth.

Of sowing
Pease.

Now for the manner of sowing your Pease, you shall sow them above furrow, that is, first plough the land upward, then immediately sow your Pease, and instantly after harrow them, the Plough, the Seeds-man, and the Harrower, by due course, following each other, and so likewise you may sow Oates upon this soyle.

About the middest of March, which is almost a fortnight before our Lady day, you shall begin to sowe your Barley. Barley, which Barley you shall sowe neither under furrow, nor above, but after this order: first, you shall plough your land downward, beginning at the furrow, and so ascending upward to the ridge of the land, which as soone as you have opened, you shall then by pulling the Plough out of the earth, and laying the shelboard crosse the ridge, you shall fill the ridge in againe with the same mould which

Of sowing
Barley.

you ploughed up: this done, your Seeds-man shall bring his Barley, and sowe the land above furrow: after the land is sowed, you shall then harrow it as small as may be, first with a paire of wooden Harrows, and after with a paire of yron Harrowes, or else with a double Oxe harrow; for this earth being somewhat hard and much binding, will aske great care and diligence in breaking.

Of sleighting. After your Barley is sowne, you shall about the latter end of *April* beginne to smoooth and sleight your land, both with the backe Harrowes and with the rowler, and looke what clots they faile to breake, you shall with clotting beetles beate them asunder, making your mould as fine, and laying your Land as smoth as is possible.

Of Summer-stirring. About the middest of *May*, you shall, if any wet fall, beginne to Summer-stirre your Land, or if no wet fall, you shall doe your endeavour to Summer-stirre your Land, rather adventuring to breake two Ploughes, then to lose one day in that labour, knowing this, that one land Summer-stird in a dry season, is better then three Summer-stird in a wet or moist weather, both because it gives the earth a better temper, and kills the weedes with more assurednesse, and as I speake of Summer-stirring, so I speake of all other Ardors, that the drier they are done, the better they are ever done: and in this season you shall also gather the Stones from your ground.

Objection. Now it may bee objected, that if it bee best to plow in drie seasons, it is then best to fallow also in a drie season, and by that meanes not to beginne to fallow untill the beginning of *May*, as is prescribed for the blacke clay, and so to deferre the Summer-stirring till the next month after, sith of necessitie *Iannary* must either bee wette or else unkindely.

Answer. To this I make answer, that most true it is, that the land which is last fallowed is ever the best and most fruitfull, yet this mixt earth which is compound of sand and clay, is such a binding earth, that if it bee not taken and fallowed in a moist time of the yeare, as namely, in

Iannary

January or *Februarie*, but suffered to lye till *May*; at which time the drought hath so entred into him, that the greatest part of his moysture is decayed, then I say, the nature of the ground is such, and so hard; that it will be impossible to make any Plough enter into it, so that you shall not onely adventure the losse of that speciall Ardor, but also of all the rest which should follow after, and to consequently loose the profit of your Land: where contrariwise if you fallow it at the beginning of the yeare, as in *January*, and *Februarie*, albe they bee wette, yet shall you lay up your furrowes and make the earth more loose, by which meanes you shall compassse all the other Earings which belong to your soile: for to speake briefly, late fallowing belongs unto clayes, which by drought are made loose and light, and early fallowings unto mixt soiles, such as these which by driness doe ingender and bind close together.

About the middest of *June*, you shall beginne to weede Of Weeding, your Corne, in such sort as hath beene before described in the former Chapters: and although this soile naturally of it selfe (if it have received his whole Ardor in due seasons, and have beene Ploughed cleane, according to the office of a good Husband) doth neither put forth Thistle, or other weede, yet if it want either the one or the other, it is certain that it puts them forth in great abundance, for by Thistles and weeds, upon this soile, is ever knowne the goodnesse and diligence of the Husbandman.

About the middest of *July*, you shall beginne to soile Of Soiling, your land, in such sort as hath beene mentioned in the former Chapters, onely with this observation that if any of your lands lye flat, you shall then, in your soiling, plough those lands upward and not downeward, holding your first precept that in this soile, your lands must lye high, ligh, and hollow, which if you see they doe, then you may if you please in your soiling cast them downeward, because at *Winter* ridging you may set them up againe.

Now

Of Manuring.

Now for as much as in this Chapter I have hitherto omitted to speak of manuring this soyle, you shall understand, that it is not because I hold it so rich that it needeth no Manure, but because I know there is nothing more needfull unto it then Manure, in so much that I wish not the Husbandman of this ground to binde himselfe unto any one particular season of the yeere for the leading forth of his Manure, but to bestow all his leasurable houres and rest from other workes only upon this labour, even through the circuit of the whole yeare, knowing this most precisely, that at what time of the yeare soever you shall lay manure upon this earth, it will returne much profit.

As for the choyse of Manures upon this soyle, they are all those whatsoever, of which I have formerly intreated in any of the other Chapters, no Manure whatsoever comming amisse to this Ground: provided, that the Husbandman have this respect to lay upon his moystest and coldest ground his hottest Manures, and upon his hottest and driest earth his coolest and moystest Manures: the hot Manures being Sheepe-dung, Pigeons-dung, Pullendung, Lyme, Ashes, and such like: the coole being Oxedung, Horse-dung, the scourings of Ponds, Marle, and such like.

Of Winter-ridging.

About the middest of *September* you shall beginne to Winter-ridge your land, which in all points you shall doe according as is mentioned in the former Chapters of the Claves: for in this Ardor there is never any difference, only this one small observation, that you may adventure to Winter-ridge this mixt earth sooner then any other: for many of our best English Husbandmen which live upon this soyle doe hold this opinion, that if it be Winter-ridged so early in the yeere, that through the vertue of the latter spring it put forth a certaine Greene weede like moss, being short and soft, that the land is so much the better therefore, being as they imagine both fed and comforted by such a slender expression which doth not take from the land any heart, but like a warme covering doth ripen and make

make mellow the mould, and this cannot be effected but only by early Winter-ridging.

At the end of September, you shall beginne to sow your Wheate, Rye, and Maslin, all which Graines are very naturall, good, and profitable upon this soile, and are to bee sowne after the same manner, and with the same observations which are specified in the former Chapter of the blacke Clay, that is to say, the Wheate under furrow, and unharrowed, the Rye and Maslin above furrow, and well harrowed. And herein is also to bee remembered all those precepts mentioned in the Chapter of the blacke Clay, touching the division of the fields, that is to say, if you have three fields, you shall then sow your Wheate, Rye and Maslin in your fallow-field, and so save both the Poyling and double Manuring of so much earth: but if you have foure fields, then you shall sow those graines upon that land from whence the same yeare you did reape your Pease; your Wheate having no other Mañure then that which came by the Pease, your Rye having, if possible, either Mañure from the Cart, or from the Folde, in such sort as hath beene shewed in the Chapter of the blacke Clay, and this of Husbandmen is called Inam-wheate, or Inam-rye, that is, white-corne sowne after white-corne, as Barley after Barley, or hard-corne after hard-corne, which is, Wheate after Pease.

Of sowing of Wheate, Rye, and Maslin.

Now for the Plough which is most proper for this soile it is to be made of a middlesize betwixt that for the blacke Clay, and that for the red Sand, being not all out so bigge and unwieldy as the first, nor so slender and nimble as the latter, but taking a middle proportion from them both, you shall make your Plough of a competent fitnessse.

Of the plough.

As for the Irons, the Share must be of the same proportion that the Share for the red Sand is, yet a little thought bigger, and the Coulture of the fashion of that Coulture, onely not full so much bent, but all-out as sharpe and as long: and these Irons must bee ever well maintained with Steele, for this mixt earth is ever the hardest, and

Of the plough-Irons.

weareth both the Plough and Irons soonest; and therefore it is agreed by all Husbandmen that this Plough must not at any time want his Plough-slip, except at the first going of the Plough you shall finde that it hath too much land, that is to say, by the crosse setting on of the beame, that it runneth too greedily into the land, which to helpe, you shall let your Plough goe without a Plough-slip, till the Plough-head be so much worne, that it take no more but an ordinary furrow, and then you shall set on your Plough-slips and Plough-clouts also; but I write this in case there be imperfection in the Plough, which if it bee other wise, then this observation is needlesse.

Of the Teame.

Now for the Teame or Draught which shall draw this Plough, they are as the former, Oxen and Horses, and their number, the same that is prescribed for the blacke Clay, as namely, eight or six Beasts for Pease-earth, for fallowing, and Summer-stirring; and sixe or foure for all other Ardors; for you must understand that this mixt and binding soile, through his hardnesse and gluttenous holding together, is as hard to plow as any clay-soile whatsoever, and in some speciall seasons more by many degrees.

Of the white Clay with white Sand.

Now for the white Clay mixt with white Sand, it is an earth much more barrenne, then this former mixt earth; and bringeth forth nothing without much care, diligence, and good order: yet for his manner of Earings, in their true natures every way they differ nothing from the Earings of this blacke Clay and red Sand, onely the Seede which must be sowne upon this soile differeth from the former: for upon this soile in stead of Barley you must sow most Oates, as a Graine which will take much strength from little fertilitie; and in stead of Rye you shall sow more Wheate and more Pease, or in stead of Pease, then you shall sow Fitches of either kind which you please, and the increase will be (though not in abundance, yet) so sufficient as shall well quit the Plow-mans labour.

Of Manuring.

Now for the Manuring of this ground, you shall understand that Marle is the chiefe: for neither will any

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man suppose that this hard soile should bring up Cattell sufficient to Manure it, nor if it would, yet that Manure were not so good: for a barraine clay being mixt with a most barraine sand, it must consequently follow that the soile must be of al the barrenest, insomuch, that to give perfect strength and life unto it, there is nothing better then Marle, which being a fat and strong Clay, once incorporated within these weake moulds, it must needes give them the best nourishment, loosening the binding substance, and binding that weaknesse which occasioneth the barrainnesse: but of this Marle I shall have more occasion to speake heereafter in a particular Chapter, onely thus much I must let you understand, that this soile, albe it be not within any degree of praise for the bringing forth of Come, yet it is very apt and fruitfull for the breeding of grasse, insomuch, that it will beare you come for at least nine yeares together (without the use of any fallow or Tiltch-field) if it bee well Marled, and immediately after it will beare you very good breeding grasse, or else reasonable Medow for as many yeeres after, as by daily experience we see in the Countreies of *Lancaster* and *Chester*. So that the consequence being considered, this ground is not but to be held indifferent fruitfull: for whereas other soiles afore shewed (which beare abundance of Graine) are bound to bee Manured once in three yeeres, this soile, albe it beare neither so rich graine, nor so much plenty, yet it needes Marling not above once in sixteene or eightene yeares: and albe Marle bee a Manure of the greatest cost, yet the profit by continuance is so equall that the labour is never spent without his reward, as shall more largely appeare hereafter.

As touching the Plough, it is the same which is mentioned in the other soile of the blacke Clay. and red Sand, altering nothing either in quantity of timber, or strength of Irons: so that to make any large description thereof, is but to double my former discourses, and make my writings tedious.

For to conclude briefly, these two soiles differ onely

but in fatnesse and strength of nature, not in Earing, or Plowing, so that the labours of tillage being equall, there is not any alteration more then the true diligence of much manuring, which will breed an affinitie or alliance betwixe both these Soiles: And thus much for this blacke Clay and red Sand, or white Clay and white Sand.

CHAP. XIV.

Of the manner of plowing the blacke Clay mixt with white Sand, and the white Clay mixt with red Sand: their Earing, Plough, and Implements.



Touching the mixture of these two severall soyles, that is to say, the blacke Clay with white Sand, and the white clay with red Sand, they differ not in the nature of Plowing, Sowing, or in Manuring, from the Soile which is mixt of a blacke Clay and red Sand, of which I have sufficiently intreated before: onely thus much you shall understand, that the blacke Clay mixt with white sand is so much better and richer then the white Clay mixt with red Sand, by as much as the blacke clay is better then the white clay: and although some Husbandmen in our Land, hold them to be both of one temper and goodnesse, reasoning thus, that by how much the blacke clay is better then the white, by so much the red sand is better then the white sand, so that what the mixture of the one addeth, the mixture of the other taketh away, and so maketh them all one in fruitfulnessse and goodnesse; but in our common experience it doth not so fall out, for we finde that the blacke clay mixt with white sand, if it be ordered in the forme of good Husbandry, that is to say, bee plowed over at least foure times, before it come to bee sowne, and that it bee manured and compassed in Husbandly fashion, which is to allow at least eight waine-load to an Aker, that if then upon such Land you shall, sow either Organe Wheate

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(in the South parts called red Wheat) or flaxen, or white Pollard Wheat, that such Wheat will often mildew, and turne as black as soot, which cruely sheweth too much richnesse and fatnesse in the earth, which the white clay mixt with red sand hath never beene seene to doe, especially so long as it is used in any Husbandly fashion; neither will the white clay mixt with red sand indure to bee divided into foure Fields, that is to say, to beare three severall Crops, one after another, as namely, Barley, Pease and Wheat, without rest, which the black clay mixt with white sand many times doth, and thereby againe sheweth his better fruitfulness: nevertheless, in generalitie I would not with any good Husbandman, and especially such as have much tillage, to divide either of these soyles into any more then three fields, both because he shall ease himselfe and his Cattell of much toyle, shall not at any time lose the best seasons for his best workes, and make his commodities, and fruit of his hands labours, by many degrees more certaine.

You shall also understand, that both these soiles are very much binding, especially the white clay with red sand, both because the clay, proceeding from a chaunie and limie substance, and not having in it much fatnesse or fertilitie (which occasioneth separation) bring mixt with the red sand, which is of a much more hardnesse and aptnesse to knit together, with such tough matter; it must necessarily bind and cleave together, and so likewise the black clay, from whence most naturally proceedeth your best lime-stone, being mixt with white sand, doth also binde together and stiffe the seed, if it be not prevented by good husbandry.

You shall therefore in the plowing and earing of these two soyles, observe two especiall notes; the first, that by no means you plow it in the wet, that is, in any great glut of raine: for if you either lay it up, or cast it downe, when it is more like mortar then earth, if then any Sunnes shine, or faire weather, doe immediately follow upon it, it will so drie and bake it, that if it be sowne, neither will the seed have strength to sprout thorow it, nor being in

any of your other Summer ardors, shall you by any meanes make your plough enter into it againe, when the season falleth for other plowing. The second, that you have great care you lay your land high and round, that the furrowes, as it were, standing upright one by another, or lying light and hollow one upon another, you may with more ease, at any time, enter in your plough, and turne your mould which way you please, either in the heat of Summer, or any other time of the year. whatsoever.

Now as touching the Plough, which is most best and proper for these soyles, it would be the same in size which is formerly directed for the red Sand, onely the Irons must bee altered, for the Coulter would bee more long, sharpe, and bending, and the Share so narrow, sharpe and small as can conveniently be made, according as is formerly expressed, that not having power to take up any broad furrow, the furrowes by reason of their slenderesse, may lye many, and these many both hollow, light, and at any time easily to bee broken.

As for the Teame which is best to worke in this soyle, they may bee either Horses or Oxen, or Oxen and Horse mixt together, according to the Husbandmans abilitie; but if he be a Lord of his owne pleasure, and may command, and have every thing which is most apt and proper, then in these two soyles, I preferre the Teame of Horses single, rather then Oxen, especially in any winter or moyst ardor, because they doe not tread and soyle the ground, making it myrie and durty as the Oxe doth, but going all in one furrow, doe keepe the Land in his constant firmnesse:

As touching the clotting, sleighting, weeding, and dressing of these two soyles, they differ in nothing from the former mixt earths, but desire all one manner of diligence: and thus much for these two soyles, the blacke clay mixt with white sand, and the white clay with white red sand.

CHAP. XV.

A comparison of all the former soyles together, and most especiall notes for giving the ignorant Husbandman perfect understanding of what is written before.

THE reason why I have thus at large discoursed of every severall Soyle, both simple and compounded, is to shew unto the industrious Husbandman, the perfect and true reason of the generall alteration of our Workes in Husbandry, through this our Realme of *England*: for if all our Land, as it is one Kingdome, were likewise of one composition, mixture, and goodnesse, it were then exceeding preposterous to see those diversities, alterations, &c. and even contrary manners of proceedings in Husbandrie, which are daily and hourly used: but every man in his owne worke knowes the alteration of climates. Yet for so much as this labour of Husbandry, consisteth not for the most part in the knowing and understanding breast, but in the rude, simple, and ignorant Clowne, who onely knoweth how to doe his labour, but cannot give a reason why he doth such labour, more then the instruction of his parents, or the custome of the Country, where it comes to passe (and I have many times seene the same to mine admiration) that the skilfullest Clowne which is bred in the Clay soyles, when he hath beene brought to the sandy ground, hee could neither hold the Plough, temper the Plough, nor tell which way in good order to drive the Cartrell, the heaviness of the one labour being so contrary to the lightnesse of the other, that not having a temperance, or understanding in his hands, hee hath beene put even unto his wittes ends; therefore I thinke it convenient, in this place, by a sleight comparison of soyles together, to give the simplest Husbandman such direct and plaine rules that hee shall

shall without the study of his braines, attaine to absolute knowledge of every severall mixture of earth: and albeit hee shall not bee able distinctly to say at the first that it is compounded of such and such earthes, yet hee shall be very able to deliver the true reason and manner how such ground (of what nature soever) shall be Husbanded and tilled.

Therefore to beginne, the Husbandman is to understand, that generally there are but two soyles for him to regard, for in them consisteth the whole Arte of Husbandry: as namely, the open and loose earth, and the close and fast binding earth, and these two soyles being meere opposites and contraries, most necessarily require in the Husbandman a double understanding, for there is no soyle, of what simplicity or mixture soever it be, but it is either loose or fast.

Now to give you my meaning of these two words, *loose* and *fast*, it is, that every soyle which upon parching and dry weather, even when the Sunne beames scorch, and as it were bake the earth, if then the ground upon such exceeding drought doe moulder and fall to dust, so that whereas before when it did retaine moysture it was heavie, tough, and not to be separated, now having lost that glewineffe it is light, loose, and even with a mans foote to bee spurned to ashes, all such grounds, are termed loose and open grounds, because at no time they doe binde in, or imprison the seede (the frost time onely excepted, which is by accident, and not from the nature of the soyle:) and all such grounds as in their moysture, or after the fall of any sodaine raine, are soft, plyable, light, and easie to bee wrought, but after, when they come to lose that moistnesse, and that the powerfulesse of the Sunne hath as it were, dryde up their veines, if then such earthes become hard, firme, and not to be separated, then are those soiles termed fast and binding soiles, for if their Ardors be not taken in their due times, and their seede cast into them in perfect and due seasons, neither is it possible for
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the Plow-man to plow them, nor for the seede to sprout through, the earth being so fastned and as it were, stone-like fixt together. Now sithence that all soyles are drawne into these two heads, fastnesse, and loosenesse, and to them is annexed the diversitie of all tillage, I will now shew the simple Husbandman which earthes be loose, and which fast, and how without curiositie to know and to distinguish them.

Briefely, all soyles that are simple and of themselves uncompounded, as namely, all Clayes, as blacke, white, gray, or blew, and all Sands, as either red, white, or blacke, are open and loose soyles: the Clayes because the body and substance of them being held together by moistnesse, that moisture being dried up, their strength and stiffness decayeth, and Sands by reason of their naturall lightnesse, which wanting a more moist and fixt body to be joyned with them, doe loose all strength of binding or holding together. Now all mixt or compound earths (except the compositions of one and the same kindes, as clay with clay, or sand with sand) are ever fast and binding earths: for betwixt sand and clay, or clay and gravell, is such an affinity, that when they be mixt together, the sand doth give to the clay such hardnesse and drynesse, and the clay to the sand such moisture and coldnesse, that being fixt together they make one hard body, which through the warmth of the Sunne bindeth and cleaveth together. But if it bee so that the ignorance of the Husbandman cannot either through the subtiltie of his eye-sight, or the observations gathered from his experience, distinguish of these soyles, and the rather, sith many soyles are so indifferently mixt, and the colour so very perfect, that even skill it self may be deceived: as first to speake of what mixture some soyles consist, yet for as much as it is sufficient for the Husbandman to know which is loose, and which is binding, he shall onely when he is perplext with these differences, use this experiment, he shall take a good lump of that earth whose temperature he would know, and working it with

water and his wet hands, like a piece of paste, he shall then as it were, make a cake thereof, and laying it before an hot fire, there let it lye, til all the moisture be dried and baked out of it, then taking it into your hands, and breaking it in pieces, if betweene your fingers it moulder and fall into a small dust, then bee assured it is a loose, simple, and uncompounded earth, but if it breake hard and firme, like a stone, and when you crumble it betweene your fingers, it be rough, greetic, and shining, then be assured it is a compounded fast-binding earth, and is compounded of clay and sand, and if in the baking it doe turne red or redish, it is compounded of a gray clay, and red sand, but if it bee browne or blewish, then it is a black clay and white sand, but if when you breake it you finde therein many small Pibles, then the mixture is clay and gravell. Now there bee some mixt soiles, after they are thus bak't, although they bee hard and binding, yet they will not bee so exceeding hard and stone-like as other soyles will be, and that is where the mixture is unequall, as where the clay is more then the sand, or the sand more then the clay.

When you have by this experiment found out the nature of your earth, and can tell whether it be simple or compounded, you shall then looke to the fruitfulnessse thereof, which generally you shall thus distinguish. First, that clayes, simple, and of themselves uncompounded, are of all the most fruitfull, of which, blacke is the best, that next to clayes, your mixt earthes are most fertile, and the mixture of the blacke clay, and red sand, called a haffell earth, is the best, and that your sands are of all soiles most barren, of which the red sand for profit hath ever the preheminance.

Now for the generall tillage and use of these grounds, you shall understand that the simple and uncompounded grounds, being loose and open (if they lye free from the danger of water) the Lands may bee layd the flattest and greatest, the furrowes turned up the largest and closest, and the Plough and Plough-Irons, most large and massie,
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onely those for the sandy grounds must bee more slender then those for the clayes, and much more nimble, as hath, beene showed before. Now for the mixt earths, you shall lay your Lands high, round, and little; set your furrowes upright, open, and so small as is possible, and make your Plough and plow Irons most nimble and slender, according to the manner before specified: and thus I conclude, that he which knoweth the loose earth and the binding earth, can either helpe or abate the strength of the earth, as is needfull, and knowes how to sort his Ploughes to each temper, knowes the ground and substance of all tillage.

CHAP. XVI.

Of the planting or setting of Corne, and the profit thereof.

NOr that I am conceited, or carried away with any novelty or strange practice, unusually practiced in this kingdome, or that I will ascribe unto my selfe to give any judiciall approbation or allowance to things meerely unfrequented, doe I publish, within my booke, this relation of the setting of Corne, but onely because I would not have our English Husbandman to bee ignorant of any skill or obscure facultie which is either proper to his profession, or agreeable with the fertilitie and nature of our clymates, and the rather, since some few yeares agoe, this (as it then appeared secret) being with much admiration bruited through the kingdome, insomuch, that according to our weake accustomed dispositions (which ever love strange things best) it was held so worthy, both for generall profit and particular ease, that very few (except the discrete) but did not alone put it in practice, but did even ground strong beliefes to raise to themselves great common-wealthes by the

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profit

profits thereof; some not onely holding insufficient arguments, in great places, of the inutilitie of the Plough, but even utterly condemning the poore cart lade, as a creature of no necessitie, so that Poulters and Carriers, were in good hope to buy Horse-flesh as they bought Egges, at least five for a penny; but it hath proved otherwise, and the Husbandman as yet cannot loose the Horses service. But to proceede to the manner of setting or planting of Come, it is in this manner.

Of setting
Wheate.

Having chosen out an aker of good Come ground, you shall at the beginning of *March*, appoynt at least fixe diggers or labourers with spades to digge up the earth. Gardenwise, at least a foote and three inches deepe (which is a large spades graft) and being so digged up, to rest till *June*, and then to digge it over againe, and in the digging to Trench it and Manure it, as for a garden mould, bestowing at least sixteene Waine-load of Horse or Oxe Manure upon the aker, and the Manure to bee well covered within the earth, then so to let it rest untill the beginning of *October*, which being the time for the setting, you shall then digge it up the third time, and with rakes and beetles breake the moulde somewhat small, then shall you take a board of sixe foote square, which shalbe bored full of large wimble holes, each hole standing in good order, just sixe inches one from another, then laying the board upon the new digged ground, you shall with a stick, made for the purpose, through every hole in the board, make a hole into the ground, at least foure inches deepe, and then into every such hole you shall drop a Corne of Wheate, and so removing the board from place to place, goe all over the ground that you have digged, and so set each severall Corne sixe inches one from another, and then with a rake you shall rake over and cover all the holes with earth, in such sort that they may not bee discerned. And herein you are to observe by the way that a quarte of Wheate will set your aker: which Wheate is not to bee taken as it fallles out by chance when you buy it
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in the market, but especially culd and pickt out of the eare, being neither the uppermost Cornes which grow in the toppes of the eares, nor the lowest, which grow at the setting on of the stalke, both which, most commonly are light and of small substance, but those which are in the midst, and are the greatest, fullest, and roundest.

Now in the selfe-same sort as you dresse your ground for your Wheate, in the selfe same manner you shall dresse your ground for Barley, onely the first time you digge it shalbe after the beginning of *May*, the second time and the Manuring about the midst of *October*, wherein you shall note that to your aker of Barley earth, you shall allow at least foure and twentie Waine-load of Manure, and the last time of your digging and setting shalbe at the beginning of *Aprill*.

Of setting Barley, or Pease.

Now for the dressing of your earth for the setting of Pease, it is in all things answerable to that for Barley, onely you may save the one halfe of your Manure, because a dosen Waine-load is sufficient, and the time for setting them, or any other pulse, is ever about the midst of *February*.

Now for the profit which issueth from this practise of setting of Corne, I must needs confesse, if I shall speake simply of the thing, that is, how many foulds it doubleth, and increaseth, surely it is both great and wonderfull: and whereas in generall it is reputed that an Aker of set Corne yeeldeth as much profit as nine Akers of sowne Corne, for mine owne part I have seene a much greater increase, if every Corne set in an Aker should bring forth so much as I have seene to proceed from some three or foure Cornes set in a Garden, but I feare mee the generalitie will never hold with the particular: how ever, it is most certaine, that earth in this sort trimmed and enriched, and Corne in this sort set and preserved, yeeldeth at least twelve-fold more commoditie then that which by mans hand is confusedly throwne into the ground from the Hopper: whence it hath come to passe that those

Of the profit of setting Corne.

which by a few Cornes in their gardens thus set, seeing the innumerable increase, have concluded a publicke profit to arise thereby to the whole kingdome, not looking to the intricacie, trouble, and casualtie, which attends it, being such, and so insupportable that almost no Husbandman is able to undergoe it: to which wee neede no better testimony then the example of those which having out of meere covetousnesse and lucre of gaine, followed it with all greedinesse, seeing the mischiefes and inconveniences which hath incountred their works, have even desisted, and forgotten that ever there was any such practice, and yet for mine owne part, I will not so utterly condemne it, that I will deprive it of all use, but rather leave it to the discretion of judgement, and for my selfe, onely hold this opinion, that though it may very well be spared for the generall use of Wheate and Barley in this kingdome, yet for Hastie-pease, French Beanes, and such like pulse, it is of necessary employment, both in rich and poore mens gardens. And thus much for the setting of Corne.

CHAP. XVII:

*Of the choice of Seed-corne, and which is best
for which soyle.*



Having thus showed unto you the severall soyles and temperatures of our English land, together with the order of Manuring, dressing, and tillage of the same, I thinke it meete (although I have in generall writ something already touching the seed belonging to every severall earth) now to proceede to a particular election and choice of Seede-corne, in which there is great care and diligence to be used: for as in Men, Beasts, Fowle, and every moving thing, there is great care taken for the choice of the breeders, because the creatures bred doe so much participate of the parents that for the most
part

part they are seene not onely to carry away their outward figures and semblances, but even their naturall conditions and inclinations, good issuing from good, and evill from evill: so in the choise of Seed-corne, if there be any neglect or carelesseesse, the crop issuing of such corrupt Seed, must of force bring forth a more corrupt harvest, by as much as it exceedeth in the multiplication.

To proceede therefore, to the choyce of Seede-corne, I will begin with Wheate, of which there are divers kindes, as your whole straw Wheate, the great browne Pollard, the white Pollard, the Organe or read Wheate, the flaxen Wheate, and the chilter Wheate. Your whole strawe Wheate, and browne Pollard, are knowne, the first, by his straw, which is full of pith, and hath in it no hollownesse, whence it comes that Husbandmen esteeme it so much for their thacking, allowing it to be as good and durable as reede: the latter is knowne by his eare, which is great, white, and smooth, without anes or beard upon it: in the hand they are both much like one to another, being of all Wheates the biggest, roundest, and fullest: they bee somewhat of a high colour, and have upon them a very thicke huske, which making the meale somewhat browne causeth the Baker not all together to esteeme them for his purest Manchet, yet the yeeld of flower which cometh from them is as great and greater then any other Wheate whatsoever. These two sorts of Wheate are to bee sowne upon the Fallow Field, as craving the greatest strength and fittest of ground, whence it comes that they are most commonly seene to grow upon the richest and stiffest blacke Clayes, being a graine of that strength that they will seldome or never mildew or turne blacke, as the other sorts of Wheate will doe, if the strength of the ground be not abated before they be throwne into the earth. Now for the choice of these two Wheates, if you be compelled to buy them in the market, you must regard that you buy that which is the cleanest and fairest, being utterly without any weeds, as Darnell, Cockle, Tares, or
any

The choise of
Seede Wheate.

any other foulentle whatsoever: you shall looke that the Wheat, as neere as may bee, hold all of one bignesse, and all of one colour, for to behold it contrary, that is to say, to see some great Cornes, some little, some high coloured, some pale, so that in their mixture they resemble changeable Taffata, is an apparant signe that the Corne is not of one kinde but mixt or blended, as being partly whole straw, partly Pollard, partly Organe, and partly Chelter. For the flaxen, it is naturally so white, that it cannot bee mixt but it may easily bee discerned; and these mixt seedes are never good, either for the ground or the use of man. Againe, you shall carefully looke, that neither this kinde of Wheat, nor any other that you buy for seed bee blacke at the ends, for that is a signe that the Graine coming from too rich a soyle was mildewed, and then it will never bee fruitfull or proove good seed; as also you shall take care that it be not too white at the ends, shewing the Corne to bee as it were of two colours, for that is a signe that the Wheate was washt and dried againe, which utterly confoundeth the strength of the Corne, and takes from it all abilitie of bringing forth any great encrease. Now if it bee so that you have a crop of Wheat of your owne, so that you have no need of the Market, you shall then picke out of your choysfest sheafes, and upon a cleane floore gently batt them with a flaile, and not thresh them cleane, for that Corne which is greatest, fullest, and ripest, will first flye out of the eare, and when you have so batted a competent quantity, you shall then winnow it and dresse it cleane, both by the helpe of a strong wind and open sives, and so make it fit for your seed.

I have seene some Husbands, (and truly I have accounted them both good and carefull) that have before Wheate-seed-time both themselves, wives, children, and servants at times of best leasure, out of a great Wheatemow or Ray, to gleane or pull out of the sheafes, eare by eare, the most principall eares, and knitting them up in small bundles, to batt them and make their seed thereof,
and

and questionless it is the best seeds of all other: for you shall bee sure that therein can bee nothing but the cleanest and the best of the Corne, without any weedes or foulness, which can hardly bee when a man thresheth the whole sheafe; and although some men may thinke that this labour is great and troublesome, especially such as sow great quantities of Wheate, yet let them thus farre encourage themselves, that if they doe the first yeere but gleane a bushell or two (which is nothing amongst a few persons) and sow it upon good Land, the increase of it will the next yeere goe farre in the sowing the whole crop: for when I doe speake of this picking of wheate, care by care, I doe not intead the picking of many quarters, but of so much as the increase thereof may amount to some quarter.

Now there is also another regard to bee had (as available as any of the former) in choosing of your seeds Wheate, and that is to respect the soyle from whence you take your seeds, and the soyle into which you put it, as thus.

If the ground whereon you meane to sow your Wheate be a rich, blacke clay, stiffe and full of fertilitie, you shall then (as neere as you can) choose your seeds from the barrainest mixt earth you can finde (so the Wheate bee whole, straw or Pollard) as from a clay and gravell, or a clay and white sand, that your seeds comming from a much more barraine earth then that wherein you put it, the strength may be as it were redoubled, and the increase consequently amount to a higher quantity, as wee finde it proveth in our daily experience; but if these barraine soyles doe not affoord you seeds to your contentment, it shall not then be amisse (you sowing your Wheate upon fallow or tilth-ground) if you take your Seeds wheate either from an earth of like nature to your owne, or from any mixt earth, so that such seeds come from the Niams, that is, that it hath beene sowne after Pease, as being the third crop of the Land, and not from the fallow or tilth ground,

ground; for it is a maxime amongst the best Husbands (though somewhat preposterous to common sense) bring to your rich ground seede from the barraine, and to the barraine seede from the rich, their reason (taken from their experience) being this, that the seede (as before I said) which prospereth upon a leane ground being put into a rich, doth out of that superfluitie of warmth, strength and fatnesse, double his increase; and the seede which cometh from the fat ground being put into the leane, having all the vigour, fullnesse and iuyce of fertilenesse, doth not onely defend it selfe against the hungrienesse of the ground, but brings forth increase contrary to expectation; whence proceedeth this generall custome of good Husbands in this Land, that those which dwell in the barraine wood Lands, Heathes and high Mountaine countries of this kingdome, ever (as neere as they can) seeke out their seede in the fruitfull low vales, and very gardens of the earth, and so likewise those in the vales take some helpes also from the Mountaines.

Now for your other sorts of Wheate, that is to say, the white Pollard and the Organe, they are graines nothing so great, full and large as the whole straw, or browne Pollard, but small, bright, and very thinly huskt: your Organe is very red, your Pollard somewhat pale: these two sorts of Wheate are best to be sowne upon the third or fourth field, that is to say, after your Pease, for they can by no meanes endure an over rich ground, as being tender and apt to sprout with small moisture, but to mildew and cheake with too much fatnesse, the soyles most apt for them, are mixt earthes, especially the blacke clay and red sand, or white clay and red sand, for as touching other mixtures of grounds, they are for the most part so barraine, that they will but hardly bring forth Wheat upon their fallow field, and then much worse upon a fourth field: Now for any other particular choice of these two seedes, they are the same which I shewed in the whole straw, and great Pollard. As for the flaxen Wheate,

Wheate, and chilter Wheate, the first, is a very white Wheate both inward and outward, the other a pale red or deepe yellow: they are the least of all sorts of Wheate, yet of much more hardnesse and toughnesse in sprouting, then either the Organe or white Pollard, and therefore desire somewhat a more richer soyle, and to that end they are for the most part sowne upon fallow fieldes, in mixt earths, of what natures or barrainnesse soever, as is to be seene most generally over all the South parts of this Realme: and although uncompounded lands out of their owne nature doe hardly bring forth any Wheate, yet upon some of the best sands, and upon the flintie gravels, I have seene these two Wheates grow in good abundance, but being seldome, it is not so much to be respected.

After your Wheate, you shall make choice of your Rye, of which there are not divers kinds, although it carry divers complections, as some blackish, browne, great, full and long, as that which for the most part growes upon the red sand, or red clay, which is three parts red sand mixt with blacke clay, and is the best Rye: the other a pale gray Rye, short, small, and hungry, as that which growes upon the white sand, or white clay and white sand, and is the worst Rye. Now you shall understand that your sand grounds are your onely naturall grounds for Rye, as being indeede not principally apt for any other graine, therefore when you chuse your Rye for seede, you shall chuse that which is brownest, full, bould, and longest, you shall have great care that it bee free from weedes or sith, sith your sand grounds, out of their owne naturall heat, doe put forth such store of naughtie weedes, that except a man be extraordinarily carefull, both in the choice and dressing of his Rye, he may easily be deceived and poyson his ground with those weedes, which with great difficultie are after rooted out againe. Now for your seedes to each soyle, it is ever best to sow your best sand Rye upon your best clay ground, and your best clay Rye upon your best sand ground, observing

ving ever this generall principle, not onely in Rye, but even in Wheate, Barley, Pease, and other graine of account, that is, ever once in three yeeres, to change all your seede, which you shall finde both to augment your increase and to returne you double profit.

The choice of
Seede-barley.

Now for the choice of your Seede-barley, you shall understand, that forasmuch as it is a graine of the greatest use, and most tenderest, therefore there is the greatest diligence to be used in the election thereof. Know then that of Barley there be divers sorts, as namely, that which wee call our common Barley, being long eares with two rankes of Corne, narrow, close, and upright: another called spike, or Battledore-barley, being a large eare with two rankes of Corne, broad, flat, and in fashion of a Battledore: and the third called Beane-barley, or Barley-big, being a large four-square eare, like unto an eare of Wheate.

Of these three Barleyes, the first is most in use, as being most apt and proper to every soyle, whether it be fruitful or baraine, in this our kingdome, but they have all one shape, colour and forme, except the soyle alter them, onely the Spike-barley is most large and plentiful, the common Barley hardest and slowest to grow, and the Beane-barley least, palest, and tenderest; so that with us it is more commonly seene in gardens then in fields, although in other Countries, as in *France*, *Ireland*, and such like, they sow no other Barley at all, but with us it is of no such generall estimation, and therefore I will neither give it precedencie, nor speake of it, otherwise then to referre it to the discretion of him who takes delight in many practises: but for the common Barley, or Spike-barley, which our experience findes to be excellent and of great use, I will knit them in one, and write my full opinion of them, for their choice in our seede. You shall know then that when you goe into the market to choose Barley for your seede, you shall to your best power elect that which is whitest, fullest, and roundest, being as the Plough-man calles it, a full bunting Corne, like the nebbe or beake of a Bunting,
you

you shall observe that it be all of one Corne, and not mingled, that is, clay Barley, and sand Barley together, which you shall distinguish by these differences: the clay Barley is of a palish, white, yellow colour, smooth, full, large and round, and the sand Barley is of a deepe yellow, browne at the neather end, long, slender, and as it were, withered; and in generall no sand Barley is principall good for seed: but if the Barley bee somewhat of a high colour, and browne at the neather end, yet notwithstanding is very full, bould, and bigge, then it is a signe that such Barley comes not from the sand, but rather from an over-fat soyle, such the fatnesse of the earth doth ever alter the conspection of the Barley, for the whiter Barley ever the leaner soyle, and better seed. You shall also observe, that there bee not in it any light Corne, which is a kinde of hungry graine without substance, which although it filleth the seeds-mans hand, yet it deceiveth the ground, and this light Corne will commonly be amongst the best Barley: for where the ground is so rich that it bringeth forth the Barley too rankely, there the Corne, wanting power to stand upon root, falleth to the ground, and so robd of kindly ripening, bringeth forth much light and insufficient graine. Next this, you shall take care, that in your seed-Barley there bee not any Oates; for although they bee in this case amongst Husbandmen accounted the best of weed, yet are they such a disgrace, that every good Husband will most diligently eschew them; and for that cause onely will our most industrious Husbonds bestowe the tedious labour of gleanig their Barley, care by care, by which gleanings, in a yeere, or two, they will compass their whole seed, which must infallibly be without either Oates or any weed whatsoever: and although some grounds, especially your richest blacke clayes, will out of the abundance of their fruitfulness (as not induring to bee idle) bring forth naturally a certaine kinde of wilde Oates, which makes some ignorant Husbendes lesse carefull of their Seed, as supposing that those wilde ones are a poysoning

to their Graiae, but they are infinitely deceived: for such wilde Oares, wheresoever they bee, doe shake and fall away long before the Barley bee ready, so that the Husbandman doth carry of them nothing into the Barne, but the straw onely. Next Oares, you must bee carefull that there be in your Barley no other foule weed: for whatsoever you sow, you must looke for the increase of the like nature, and therefore as before I said in the Whear, so in the Barley, I would wish every good Husband to imploy some time in gleaning out of his Mow the principall eares of Barley, which being batted, drest, and sowne by it selfe, albeit no great quantitie at the first, yet in time it may extend to make his whole seed perfect; and then he shall find his profit both in the Market, where hee shall (for every use) sell with the dearest, and in his owne house, where he shall find his yeeld redoubled.

Now for sisting of severall Seedes to severall soyles, you shall observe, that the best seed-Barley for your Clay-field, is Ninam Barley, sowne upon the Clay field, that is to say, Barley which is sowne where Barley last grew, or a second crop of Barley: for the ground having his pride abated in the first Crop, the second, though it bee nothing neere so much in quantitie, yet that Corne which it doth bring forth, is most pure, most white, most full, and the best of all Seeds whatsoever, and as in case of this Soyle, so in all other like soyles, which doe holde that strength or fruitfulness in them, that they are either able of themselves, or with some helpe of Manure in the latter end of the yeere, to bring forth two Crops of Barley, one after the other: but if either your soyle deny you this strength, or the distance of place bereave you of the commoditie thereof, then you shall understand, that Barley from an hallow ground is the best seed, for the clay ground, and Barley from the clay ground is the best seed, not onely for the hallow earth, but even for all mixt earths whatsoever, and the Barley which proceeds from the mixt earths, is the best seed for all simple and uncompounded sands or gravells,

as wee finde, both by their increasings, and daily experience.

Now for the choise of seed-Beanes, Pease, or other Pulse, the scruple is nothing neere so great as of other seeds, because every one that knowes any graine, can distinguish them when he sees them: besides they are of that massie weight, and so well able to indure the strength of the wind, that they are easie to bee severed from any weed or filch whatsoever: it resteth therefore that I only give you instruction how to imploy them.

You shall understand therefore, that if your soyle bee a fine, blacke, rich Clay, that then your best seed is cleane Beanes, or at the least three parts Beanes, and but one part Pease: if it be a gray, or white clay, then Beanes and Pease equally mixt together: if the best mixt earths, as a black clay and red sand, blacke clay and white sand, or white clay and red sand; then your seed must be cleane Pease only: if it be white clay and white sand, blacke clay and black sand, then your seed must be Pease and Fitches mixt together: but if it bee gravell or sand simple, or gravell and sand compounded, then your seed must bee either cleane Fitches, cleane Bucke, or cleane Tares, or else Fitches, Bucke and Tares mixt together.

The choise of
seed-Beanes,
Pease, and
Pulse.

Now to conclude with the choise of your Oates; You shall understand that there be divers kindes of them, as namely, the great long white Oate, the great long blacke Oate, the cut Oate, and the Skegge: the two first of these are knowne by their greatnesse and colours, for they are long, full, bigge, and smooth, and are fittest to be sowne upon the best of barraine grounds, for sith Oates are the worst of Graine, I will give them no other priority of place. The next of these, which is the cut Oate, it is of a pale yellow colour, short, smooth, and thicke, the increase of them is very great, and they are the fittest to be sowne upon the worst of best Grounds, for most commonly where you see them, you shall also see both good Wheate, good Barley, and good Beanes and Pease also,

The choise of
Seed-Oates.

also. Now for the *stegge Oate*, it is a little, small, hungry, leane Oate, with a beard at the small end like a wilde Oate, and is good for small use more then Pullen onely: It is a seed meet for the barrenest and worst earth, as fit to grow but there where nothing of better profit will grow. And thus much for those feedes which are apt and in use in our English soyles: wherein if any man imagine me guilty of errour, in that I have omitted particularly to speake of the seed of blend-Corne, or Masline, which is Wheate and Rye mixt together: I answer him, that sith I have shewed him how to chuse both the best Wheat, and the best Rye, it is an easie matter to mixe them according to his owne discretion.

CHAP. XVIII.

Of the time of Harvest, and the gathering in of Corne.

NExt unto Plowing, it is necessarie that I place Reaping, sith it is the end, hope, and perfection of the labour, and both the merit and encouragement which maketh the toyle both light and portable: then to proceed unto the time of Harvest, you shall understand, that it is requisite for every good Husband about the latter end of July, if the soyle wherein hee lieth be of any hott temper, or about the beginning of August, if it bee of temperate warmth, with all diligence constantly to behold his Rye, which of all Graines is the first that ripeneth, and if he shall perceive that the hull of the Corne beginneth to open, and that the blacke toppes of the Corne doe appeare, hee may then be assured, that the Corne is fully ripe, and ready for the Sickle, so that instantly hee shall provide his Reapers, according to the quantitie of his Graine: for if he shall neglect his Rye but one day more then is fit, it is such a hastie graine, that it will
shale

shale forth of the huske to the ground, to the great losse of the Husbandman. When he hath provided his shearers, which he shall be carefull to have very good, he shall then looke that neither our of their wantonnesse nor emulation, they strive which shall goe fastest, or rid most ground, for from thence proceede many errors in their worke, as namely, scattering, and leaving the Corne uncut behind them, the cutting the heads of the Corne off, so that they are not possible to bee gathered, and many such like incommodities, but let them goe soberly and constantly, and sheare the Rye at least fourteene inches above the ground. Then he must looke that the gatherers which follow the Reapers, doe also gather cleane, and the binders bind the Sheaves fast from breaking, then if you finde that the bottome of the Sheaves be full of greens, or weeds, it shall not be amisse to let the Sheaves lye one from another for a day, that those greens may wither, but if you feare any Raine or foule weather, which is the onely thing which maketh Rye shale, then you shall set it up in Shockes, each Shocke containing at least seaven Sheaves, in this manner: First, you shall place foure Sheaves upright close together, and the eares upwards, then you shall take other three Sheaves and opening them and turning the eares downeward, cover the other foure Sheaves that stood upwards, and so let them stand, untill you may with good conveniencie leade them home, which would be done without any protraction. Next after your cleane Rye, you shall in the selfe same sort reape your Blend-corne, or Masline: and albeit, your Wheate will not bee fully so ripe as your Rye, yet you shall not stay your labour, being well assured that your Rye is ready, because Wheate will harden of it selfe after it is shorne, with lying onely. After you have got in your Rye and Blend-corne, you shall then looke unto your cleane Wheate, and taking heere and there an eare thereof, rubbe them in your hand, and if you finde that the Corne hath all perfection save a little hardning onely, you shall

The getting in
of Maslin.

The getting in
of Wacate.

then forthwith let your Reapers mow it, who shall sheare it in all things as they did sheare your Rye, onely they shall not put it in Shocks for a day or more, but let the Sheaves lye single, that the winde and Sunne may both wither the greenes, and harden the Corne: which done, you shall put the Sheaves into great Shocks, that is to say, at least twelve or fourteene Sheaves in a Shooke, the one halfe standing close together with the eares upward, the other halfe lying crosse overthwart those eares, and their eares downward, and in this sort you shall let your Wheate stand for at least two dayes before you leade it.

Now it is a custome in many Countries of this kingdome not to sheare their Wheate but to mow it, but in my conceit and in generall experience, it is not so good: for it both maketh the Wheate soule, and full of weede, and filleth up a great place with little commoditie, as for the use of thacking, which is the onely reason of such disorderly cutting, there is neither the straw that is shorne, nor the stubble which is left behinde, but are both of sufficiency enough for such an employment, if it passe through the hands of a workman, as wee see in daily experience.

The getting in
of Barley.

Next to your Wheate, you shall have regard to your Barley, for it sodaine'y ripeneth, and must be cut downe as soone as you perceive the straw is turned white, to the bettome, and the eares bended downe to the groundward. Your Barley you shall not sheare, although it is a fashion in some Countreies, both because it is painefull and profitlesse, but you shall mow it close to the ground, and although in generall it be the custome of our kingdome, after your Barley is mowen, and hath lyeen a day or two in swathe, then with rakes to rake it together, and make it ino great cokes, and so to leade it to the Barne, yet I am of this opinion, that if your Barley be good and cleane without thistles or weedes, that if then to every sithemap, or mower you alot two followers, that is to say, a gatherer

cherer, who with a little short rake and a small hooker, shall gather the Come together, and a binder who shall make bands, and bind up the Barley in small Sheaves, that questionlesse you shall finde much more profit thereby: and although some thinke the labour troublesome and great, yet for mine owne part, I have seene very great crops inned in this manner, and have seene two women, that with great ease, have followed and bound after a most principall mower, which made me understand that the toyle was not so great as mine imagination; and the profit ten-fold greater then the labour: but if your Come be ill Husbanded, and full of Thistles, Weedes, and all fittillnesse, then this practice is to be spared, and the loose cocking up of your Come is much better. Assoone as you have cleansed any Land of Barley, you shall then immediately cause one with a great long rake, of at least thirtie teeth, being in a sling bound barricke-wise crosse his body, to draw it from one end of the Land to the other, all over the Land, that hee may thereby gather up all the loose Come which is scattered, and carry it where your other Come standeth, observing ever, as your chiefest rule, that by no meanes you neither leade Barley, nor any other graine whatsoever, when it is wet, no although it be but moystned with the dew onely: for the least dankishnesse, more then the sweate which it naturally taketh, will soone cause it to putrifie.

Now for the gathering in of your Oates, they be a graine of such incertainty, ripening ever according to the weather, and not after any settled or natural course, that you are to look to no constant season, but to take them upon the first show of ripenesse, and that with such diligence that you must rather take them before, then after they be ripe, because if they tarry but halfe a day too long, they will shed upon the ground, and you shall lose your whole profit. The time then fittest to cut your Oates is, assoone as they be somewhat more then halfe changed, but not altogether changed, that is, when they are more then two parts white, and yet the Greene not utterly

The getting in
of Oates.

terly extinguished, the best cutting of them is to mow them (albeit I have seene them shorne in some places) and being mowen to let them dry and ripen in the swathe, as naturally they will doe; and then if you binde them up in Sheaves, as you should binde your Barley, it is best: for to carry them in the loose cocke, as many doe, is great losse and hindrance of profit.

The getting in
of Pulse.

After you have got in your white Corne, you shall then looks unto your pulse, as Beanes, Pease, Fitches, and such like, which you shall know to be ready by the blacknesse of the straw: for it is a rule, whensoever the straw turnes, the Pulse is ripe. If then it bee cleane Beanes, or Beanes and Pease mixt, you shall mowe them, and being cleane Beanes, rake them into heapes, and so make them up into cockes, but if they be mixt, you shall with hookes sculd the Beanes into the Pease, and make little round reapes thereof, which after they have bene turned and dryed, you may put twentie reapes together, and thereof make a cocke, and so leade them, and stacke them: but if they bee cleane Pease, or Pease and Fitches, then you shall not mow them, but with long hookes cut them from the ground, which is called Reaping, and so foulding them together into small reapes, as you did your Pease and Beane, let them be turned and dryed, and so cocked, and carried either to the Barne, stacke, or hovell.

Now having thus brought in, and finished your Harvst, you shall then immediately mow up the stubble both of your Wheat, Rye, and Maslin, and with all expedition therewith thacke, and cover from raine and weather, all such graine as for want of house-roume, you are compeld to lay abroad, either in stacke, or upon hovell: but if no such necessitie be, and that you have not other more necessary employment for your stubble, it shall bee no part of ill Husbandry to let the stubble rot upon the Land, which will be a reasonable Manuring or fattening of the earth.

Now having brought your Corne into the Barne, it is a lesson needlesse to give any certaine rules how to spend

or utter it forth, sith every man must be ruled according to his affaires, and necessitie, yet sith in mine owne experience I have taken certaine settled rules from those who have made themselves great estates by a most formall and strickt course in their Husbandry, I thinke it not amisse to show you what I have noted from them, touching the utterance and expence of their Graine: first, for your expence in your house, it is meet that you have ever so much of every severall sort of Graine threshed, as shall from time to time maintaine your family: then for that which you intend shall returne to particular profit, you shall from a fortnight before *Michaelmas*, till a fortnight after, thresh up all such Wheate, Rye, and Masline, as you intend to sell for seed, which must be winnowed, sand, and drest so cleane as is possible, for at that time it will give the greatest price; but as soone as Seede-time is past, you shall then thresh no more of those graines till it be neere Midsummer, but begin to thresh up all such Barley as you intend to convert and make into Malt, and so from *Michaelmas* till *Candlemas*, apply nothing but Malting, for in that time graine is ever the cheapest, because every Barne being full, some must sell for the payment of Rents, some must sell to pay Servants wages, and some for their Christmas Provisions: in which time Corne abating and growing scarce, the price of necessitie must afterwards rise: at *Candlemas* you shall begin to thresh all those Pease which you intend to sell for seede, because the time being then, and every man, out of necessitie, inforced to make his provision, it cannot be but they must needs passe at a good price and reckoning.

After Pease seede-time, you shall then thresh up all that Barly which you meane to sell for seede, which euer is at the dearest reckoning of any graine whatsoever, especially if it be principally good and cleane. After your seede-Barly is sould, you may then thresh up all such Wheate, Rye, and Maslin, as you intend to sell: for it ever give in the greatest price from the latter end of May untill the beginning,

Beginning of September. In September you shall begin to sell your Mault, which being old, and having byen ripening the most part of the year, must now at the latter end of the year, when all old store is spent, and the new cannot bee come to any perfection, bee most deare, and of the greatest estimation: and thus being a man of substance in the world, and able to put every thing to the best use, you may by these usuall observations, and the helpe of a better judgement, imploy the frutes of your labour to the best profit, and sell every thing at the highest price, except you take upon you to give day, and sell upon trust; which if you doe, you may then sell at what unconsionable reckoning you will; which because such unnaturall exactions neither agree with charitie, nor humanitie, I will forbear to give rules for the same, and referre every man that is desirous of such knowledge, to the examples of the World, wherein he shall finde Presidents inough for such evill customes.

And thus much for the first Part of this Worke, which containeth the manner of Plowing and Tillage onely.

THE

THE SECOND PART
of the First Booke of the
English Husbandman

Containing the Art of Planting, Grafting,
and Gardening, either for pleasure or profit; to-
gether with the use and ordering of the Vine,
the Hop-garden, and the preservation
of all kind of Fruit.

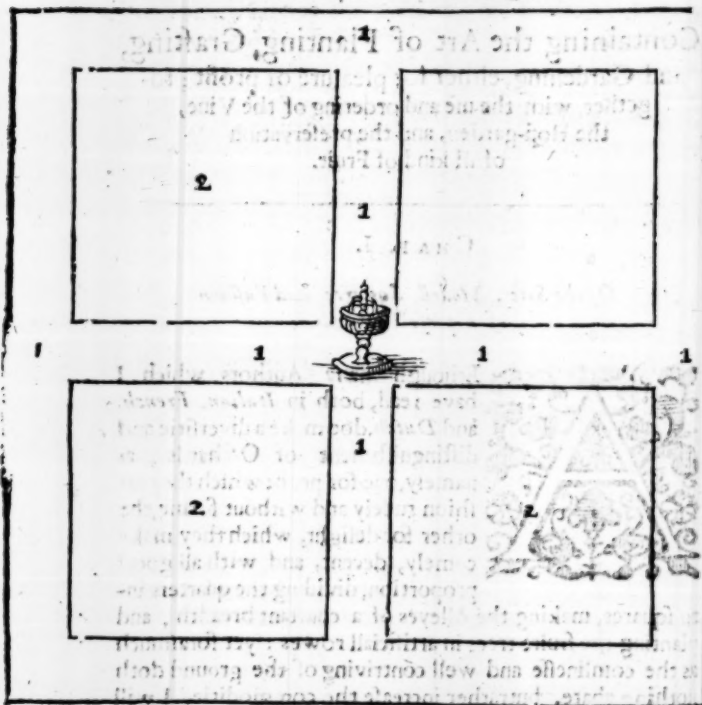
CHAP. I.

*Of the Site, Modell, Squares, and Fashion
of a perfect Orchard.*



Although many Authors which I
have read, both in *Italian, French,*
and *Dutch*, doe make a diversitie and
distinguishment of Orchards, as
namely, one for profit which they fa-
shion rudely and without forme, the
other for delight, which they make
comely, decent, and with all good
proportion, dividing the quarters in-
to squares, making the Alleyes of a constant breadth, and
planting the fruit trees in artificiall rowes: yet forasmuch
as the comelinesse and well contriving of the ground doth
nothing abate, but rather increase the commoditie, I will
therefore joyne them both together, and make them onely
but one Orchard. Now for the Site and placing of this
Orchard:

Orchard, I have in the Modell of my Countrey house, or Husbandmans Farme, shewed you where, if it be possible, it should stand, and both what Sinne and syre it should lye open upon: but if the site or ground-plot of your house will not give you leave to place your Orchard according to your wish, you shall then be content to make a vertue of necessity, and plant it in such a place as is most convenient, and neerest ayed to that forme before prescribed.



Now when you have found out a perfect ground plot, you shall then cast it into a great large square, which you shall fence

fence in either with a stone or bricke wall, a high, strong pale, or great ditch with a quicke-set hedge, but the wall is best and most durable, and that wall would have upon the inside within twelve or fourteene foot one of another, lanes or outshoots of stone or bricke, betwene which you may plant and plash those fruit-trees which are of greatest tendernesse, the South and West Sunne having power to shine upon them.

When you have thus fenced in this great square, you shall then cast foure large alleyes, at least fourteene foote broad, from the wall round about, and so likewise two other alleyes of like breadth, directly crosse overthwart the ground-plot, which will divide the great square into foure lesser squares, according to the figure before set downe.

The figure 1. sheweth the alleyes which both compasse about, and also crosse over the ground-plot, and the figure 2. sheweth the foure quarters where the fruit-trees are to be planted.

Now if either the true nature and largenesse of the ground be sufficient, or your owne abilitie of purse so great that you may compasse your desires in these earthly pleasures, it shall not be amisse, but a matter of great state, to make your ground-plot full as bigge againe, that is to say, to containe eight large quarters, the first foure being made of an even levell, the other foure being raised at least eight foote higher then the first, with convenient staires of state for ascending to the same, to bee likewise upon another even levell of like forme, and if in the center of the alleyes, being the mid-point betweene the squares, might bee placed any quint fountaines or any other antique standard the platforme would be more excellent, and if upon the ascent from one levell to another there might be built some curious and artificiall banquetting house, it would give luster to the Orchard.

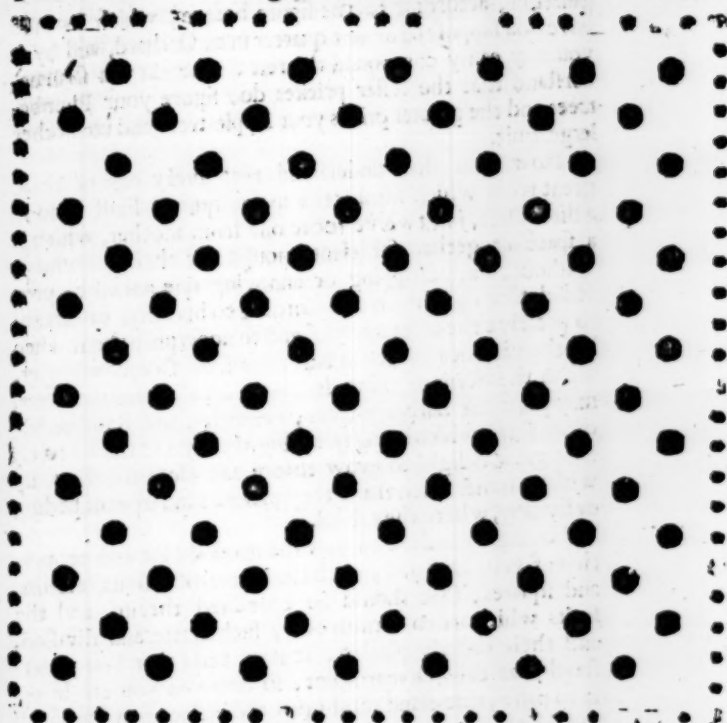
Now for the planting and furnishing of these quarters: you shall understand, that if your Orchard containe but foure quarters, then the first shalbe planted with Apple-

R

trees,

trees of all sorts, the second with Peares and Wardens of all sorts, the third with Quinces and Chesnuts, the fourth with Medlars and Services. Against the North side of your Orchard wall against which the South sunne reflects, you shall plant the Abricot, Verdochio, Peach, and Damaske-plumbe: against the East-side of the wall, the white Muskadine Grape, the Pescod-plumbe, and the Emperiall-plumbe: against the West-side the grafted Cherries, and the Olive-tree: and against the South-side the Almond, and Figge tree. Round about the skirts of every other outward or inward alley, you shall plant, the Wheate-Plumbe, both yellow and redde, the Rye-plumbe, the Damson, the Horseclog, Bulleyes of all kindes, ordinary French Cherries, Filberts, and Nuts of all sorts, together with the Pruneplumbe, and other such like stone fruits. But if your Orchard be of state and prospect, so that it containe eight quarters or more (according to the limitation of the earth) then you shall in every severall quarter plant a severall fruit, as Apple-trees in one quarter, Peares in another, Quinces in another, Wardens in another, and so forth of the rest. Also you shall observe in planting your Apples, Peares and Plumbes, that you plant your Summer or early fruit by themselves, and the Winter or long lasting fruit by themselves. Of Apples, your Ienirings, Wibourns, Pomederoyes, and Queene-Apples are reckoned the best early fruits, although there be divers others, and the Pippin, Peare-maine, Apple-lohn, and Ruffetting, your best Winter and long lasting fruit, though there be a world of other: for the tastes of Apples are infinite, according to their composition and mixture in grafting. Of Peares, your Golden Peare, your Katherine-Peare, your Lording, and such like, are the first, and your stone-Peare, Warden-Peare, and Choake-Peare, those which endure longest. And of Plumbes, the Rye-plumbe is first, your Wheate-plumbe is next, and all the other sorts of Plumbes ripen almost together in one season, if they have equall warmth, and be all of like comfortable standing.

Now



Now for the orderly placing of your trees, you shall understand that your Plumbe-trees (which are as it were a fence or guard about your great quarters) would bee placed in rowes one by one, above five foote distance one from another, round about each skirt of every alley: your Apple-trees and other greater fruit which are to be planted in the quarters, would bee placed in such artificiall rowes that which way soever a man shall cast his eyes, yet hee shall see the trees every way stand in rowes, making squares, alleyes, and divisions, according to a mans imagination,

gination, according to the figure before, which I would have you suppose to be one quarter in an Orchard, and by it you may easily compound the rest: wherein you shall understand that the lesser prickes doe figure your Plumbe-trees, and the greater prickes your Apple-trees, and such other large fruit.

Now you shall understand that every one of these great trees which furnish the maine quarter shall stand in a direct line, just twelve foote one from another, which is a space altogether sufficient enough for their spreading; without waterdropping or annoying one another; provided that the Fruiterer, according to his duty, be carefull to preserve the trees upright, and to underprop them when by the violence of the winde they shall swerve any way. Vpon the ascent or rising from one levell to another, you may plant the Barberry-trees, Feberries, and Raspberries, of all sorts, which being spreading, thorny, and sharpe trees, take great delight to grow thicke and close together, by which meanes often times they make a kind of wall, hedges or fencing, where they stand.

Having thus shewed you the ground-plot and proportion of your Orchard, with the severall divisions, ascents, and squares, that should be contained therein, and the fruits which are to furnish every such square and division, and their orderly placing, it now rests that you understand that this Orchard-plot, so neere as you can bring it to passe, doe stand most open and plaine upon the South and West Sunne, and most defended from the East and North windes and birterneffe, which being observed your plot is then perfect and absolute.

Now forasmuch as where nature, fruitfulness, and situation doe take from a man more then the halfe part of his industrie, and by a direct and easie way doth lead him to that perfection which others cannot attaine to without infinite labour and travell: and whereas it is nothing so commendable to maintaine beautie, as to make deformitie beautifull, I will speake something of the framing

of Orchard-plots there where both nature, the situation, and baraineffe, doe utterly deny the enjoying of any such commoditie, as where the ground is uneven, stonie, sandy, or in his lownesse subject to the overflow of waters, all being apparant enemies to these places of pleasure and delight. First, for the unevennesse of the ground, if that be his uttermost imperfection, you shall first not onely take a note with your eye, but also place a marke upon the best ascent of the ground to which the levell is fittest to bee drawne, and then plowing the ground all over with a great common Plough, by casting the furrowes downward, seeke to fill in and cover the lesser hollowneses of the ground, that there may not any thing appeare but the maine great hollowes, which with other earth which is free from stones, gravell, or such like evils, you shall fill up and make levell with that part where your marke standeth, and being so levelled, forthwith draw the plot of your Orchard: but if the ground be not onely uneven but also barraine, you shall then to every loade of earth you carry to the levelling, adde a loade of Manure, either Oxe Manure, or Horse Manure, the rubbish of houses, or the cleansings of olde ditches, or standing pooles, and the earth will soone become fertile and perfect; but if the ground be stonie, that is, full of great stones, as it is in *Darbishire* about the Peake or East Moors, for small pibbles, or small lime-stones are not very much hurtfull, then you shall cause such stones to be digd up, and fill up the places where they lay either with Marle, or other rich earth, which after it hath beene setled for a yeere or two, you shall then Plow and levell it, and so shewe forth the plot of your Orchard. If the ground bee onely a barraine sand, so that it wanteth strength either to maintaine or bring forth, you shall then first digge that earth into great trenches, at least foure foot deepe, and filling them up with Oxe Manure, mixe it with the sand & at it may change some part of the colour thereof, and then levelling it fashion out your Orchard. But lastly, and which is of all situa-

tions the worst, if you have no ground to plant your Orchard upon, but such as either through the neighborhood of Rivers, descent of Mountaines, or the earths owne naturall qualitie in casting and vomiting out water and moisture, is subject to some small overflowes of water, by which you cannot attaine to the pleasure you seeke, because fruit-trees can never indure the corruption of waters, you shall then in the driest season of the year, after you have marked out that square or quantity of ground which you intend for your Orchard, you shall then cast therein sundry ditches, at least sixteen foot broad, & nine foot deepe, and not above twelve foot betwixt ditch and ditch, upon which reserved earth casting the earth that you digged up, you shall raise the bankes at least seven foot high of firme earth, and keepe in the top the full breadth of twelve foot, within a foot or little more: and in the casting up of these bankes, you shall cause the earth to be beaten with maules and broad beetles, that it may lye firme, fast, and levell; and after these bankes have rested a yeere or more, and are sufficiently settled, you may then at the nether end of the banke, neere to the verge of the water, plant store of Osiers, which will be a good defence to the banke, and upon the top and highest part of the banke, you shall plant your Orchard and fruit-trees, so that when any inundation of water shall happen, the ditches shall be able enough to receive it; or else making a passage from your Orchard into some other sewer, the water exceeding his limits may have a free current or passage: besides, these ditches being nearly kept, and comforted with fresh water, may make both pleasant and commodious fish ponds. Also you must be carefull in casting these bankes, that you doe not place them in such sort, that when you are upon one you cannot come to the other, but rather like a maze, so that you may at pleasure passe from the one to the other round about the ground, making of divers bankes to the eye but one banke in substance, and of divers ponds in appearance, but one in true judgement. And thus much for the plot or situation of an Orchard.

CHAP. II.

Of the Nurserie where you shall see all manner of Kernels, and Stones for the furnishing of the Orchard.



Although great persons, out of their greatnesse and abilitie, doe buy their fruit-trees ready grafted, and so in a moment may plant an Orchard of the greatest quantitie, yet sith the Husbandman must raise every thing from his owne indeavours, and that I onely write for his profit, I therefore hold it most convenient to begin with the Nurserie or Store-house of fruits, from whence the Orchard receiveth his beaurty and riches.

This Nurserie must be a piece of principall ground, either through Art or Nature, strongly fenced, warme, and full of good shelter: for in it is onely the first infancie and tenderneffe of fruit-trees, because there they are first kernels, or stones, after sprigs, and lastly trees.

Now for the manner of choosing, sowing and planting them in this Nurserie, I differ something from the French practice, who would choose the kernels from the cider presse, sow them in large bedds of earth, and within a yeere after replant them in a wilde Orchard: now for mine owne part, though this course be not much faulty, yet I rather chuse this kind of practice first: to chuse your kernels either of Apples, Peares or Wardens, from the best and most principallest fruit you can taste, for although the kernel doe bring forth no other tree but the plaine stocke upon which the fruit was grafted, as thus, if the graft were put into a Crab-stocke, the kernel brings forth onely a Crab-tree, yet when you taste a perfect and delicate Apple, be assured both the stocke and graft were of the best choice, and so such kernels of best reckoning. When you have then a competent quantitie of such kernels, you shall:

shall take certaine large pots, in the fashion of milke-boules, all full of hoales in the botome, through which the raine and superfluous moystrure may avoyde, and either in the monthes of *March* or *November* (for those are the best seasons) fill the pots three parts full, of the finest, blackest, and richest mould you can get, then lay your kernels upon the earth, about foure fingers one from another, so many as the vessell can conveniently containe, and then with a five, sift upon them other fine moulds almost three fingers thicke, and so let them rest, filling so many pots or vessells as shall serve to receive your quantitie of kernels of all sorts. Now if any man desire to know my reason why I desire to set my kernels rather in vessells then in beds of earth, my answer is, that I have often found it in mine experience, that the kernels of Apples, Peares, Quinces, and such like, are such a tender and dainty seede, that it is great oddes, but the wormes will devour and consume them before they sprout, who naturally delight in such feedes, which these vessells onely doe prevent: but to proceede.

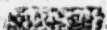
After your kernels are sprouted up, and growne to be at least seven or eight inches high, you shall then within your Nurserie digge up a border about two foote and an halfe broad, more then a foote deepe, and of such convenient length as may receive all your young plants, and having made the mould fine, and rich with Manure, you shall then with your whole hand gripe as much of the earth that is about the plant as you can conveniently hold, and so take both the plant and the mould out of the vessell, and replant it in the new drest border: and you shall thus doe plant after plant, till you have set every one, and made them firme and fast in the new mould: wherein you are to observe these two principles, first, that you place them at least five foote one from another, and secondly, that such kernels as you set in your vessells in *March*, that you replant them in borders of earth in *November* following, and such as you set in *November* to replant in *March* following,

following, and being so replanted, to suffer them to grow till they be able to beare grafts, during which time you shall diligently observe, that if any of them chance to put forth any superfluous branches or cyons, which may hinder the growth of the body of the plant, that you carefully cut them away, that thereby it may be the sooner inabled to beare a graft: for it is ever to bee intended that whatsoever proceede from kernels are onely to bee preserved for stockes to graft on, and for no other purpose.

Now for the stones of Plumbs, and other stone fruit, you shall understand that they be of two kindes, one simple and of themselves, as the Rye-plumbe, Wheate-plumbe, Damson, Prune-plumbe, Horse-clogge, Cherry, and such like, so that from the kernels of them issue trees of like nature and goodnesse: the other compounded or grafted Plumbes, as the Abricot, Pescod, Peach, Damaske, Verdochoyo, Emperiall, and such like, from whose kernels issue no other trees but such as the stockes were upon which they were grafted. Now, for the manner of setting the first, which are simple and uncompounded, you shall digge up a large bed of rich and good earth a month or more before *March* or *November*, and having made the mould as fine as is possible, you shall flat-wise thrust every stone, a foote one from another, more then three fingers into the mould, and then with a little small rake, made for the purpose, rake the bed over, and close up the holes, and so let them rest till they be of a yeares growth, at which time you shall replant them into severall borders, as you did your Apple-tree plants and others.

Now for the kernels of your compounded or grafted Plumbes, you shall both set them in beddes, and replant them into severall borders, in the same manner as you did the other kernels of Plumbes, onely you shall for the space of eight and forty houres before you set them, steepe them in new milke, forasmuch as the stones of them are more hard, and with greater difficultie open and sprout in:

the earth, then any other stone whatsoever: and thus having furnished your Nursery with all sorts of fruits and stockes, you shall when they come to full age and bignesse graft them in such order as shalbe hereafter declared.



CHAP. III:

Of the setting or planting of the Cyons or Branches of most sorts of Fruit-trees.



AS you are to furnish your nursery with all sorts of kernels and stones, for the breeding of stocks whereon to graft the daintiest fruits you can compassse, so shall you also plant therein the cyons and branches of the best fruit trees: which cyons and branches doe bring forth the same fruit which the trees doe from whence they are taken, and by that meanes your nursery shall ever afford you perfect trees, wherewith either to furnish your owne grounds, or to pleasure your neighbours. And herein by the way you shall understand that some trees are more fit to be set then to be sowne, as namely, the Service-tree, the Medlar, the Filbert and such like. Now for the Service-tree, hee is not at all to be grafted, but set in this wise: take of the bastard cyons such as be somewhat bigger then a mans thumbe, and cutting away the branches thereof set it in a fine loose mould, at least a foote deepe, and it will prosper exceedingly, yet the true nature of this tree is not to be removed, and therefore it is convenient that it be planted where it should ever continuē: in like manner to the Service-tree, so you shall plant the bastard cyons of the Medlar-tree either in *March* or *October*, and at the wane of the Moone.

Now for the Filbert, or the large Hasel-nut, you shall take the smallest cyons or wands, such as are not above two yeeres growth, being full of short heaue twigs, and grow from the roote of the maine tree, and set them in a
loote

loose mould, a foote deepe, without pruning or cutting away any of the branches, and they will prosper to your contentment. Now for all sorts of Plumb-trees, Apple-trees, or other fruit-trees that are not grafted, if you take the young cyons which grow from the rootes, cleane from the rootes, and plant them either in the spring, or fall, in a fresh and fine mould, they will not onely prosper, but bring forth fruit of like nature and qualitie to the trees from whence they were taken.

Now for your grafted fruit, as namely, Apples, Plumbes, Cherries, Mulbarries, Quinces, and such like, the cyons also, and branches of them will take roote and bring forth fruit of the same kinde that the trees did from whence they were taken: but those cyons or branches must ever bee chosen from the upper parts of the trees, betwixt the feast of *All-saints* and *Christmas*, they must be bigger then a mans finger, smooth, straight, and without twiggies: you shall with a sharpe Chissell cut them from the body or armes of the tree with such care, that by no meanes you raise up the barke, and then with a little yellow waxe cover the place from whence you cut the cyon: then having digged and dunged the earth well where you intend to plant them, and made the mould easie, you shall with an Iron, as bigge as your plant, make a hoale a foote deepe or better, and thea put in your cyon, and with it a few Oates, long steeped in water, and so fixe it firme in the mould, and if after it beginneth to put forth, you perceive any young cyons to put forth from the roote thereof, you shall immediatly cut them off, and either cast them away or plant them in other places, for to suffer them to grow may breede much hurt to the young trees. Now whereas these cyons thus planted are for the most part small and weake, so that the smallest breath of winde doth shake and hurt their rootes, it shalbe good to pricke strong stakes by them, to which, fastning the young plant with a soft hay rope, it may the better be defended from stormes and tempests.

Next to these fruit-trees, you shall understand that your bush-trees, as Barberries, Gooseberries, or Feber-ryes, Raspberries, and such like, will also grow upon cyons, without rootes, being cut from their maine rootes in *November*, and so planted in a new fresh mould. And here by the way I am to give you this note or caveat, that if at any time you finde any of these cyons which you have planted not to grow and flourish according to your desire, but that you finde a certaine mislike or consumption in the plant, you shall then immediatly with a sharpe knife cut the plant off slope-wise upward, about three fingers from the ground, and so let it rest till the next spring, at which time you shall behold new cyons issue from the roote, which will be without sicknesse or imperfection; and from the vertue of this experiment, I imagine the gardners of ancient time found out the meanes to get young cyons from olde Mulberry-trees, which they doe in this manner: First, you must take some of the greatest armes of the Mulberry-tree about the midst of *November*, and with a sharpe sawe to sawe them into bigge truncheons, about fiftene inches long, and then digging a trench in principall good earth, of such depth, that you may cover the truncheons, being set upon end, with Manure and fine mould, each truncheon being a foote one from another, and covered more then foure fingers above the wood, not sayling to water them whensoever need shall require, and to preserve them from weeds and filthinesse, within lesse then a yeares space you shall behold those truncheons to put forth young cyons, which as soone as they come to any growth and be twigged, then you may cut them from the stockes, and transplant them where you please, onely the truncheons you shall suffer to remaine still, and cherish them with fresh dung, and they will put forth many more cyons, both to furnish your selfe and your friends. And thus much for the planting and setting of cyons or branches.

CHAP. IIII.

*Of the ordinary and accustomed manner of Grafting
all sorts of Fruit-trees.*



Soone as your Nursery is thus amply furnished of all sorts of stockes, proceeding from kernels, and of all sorts of trees proceeding from cyons, branches or undergrowings, and that through strength of yeeres they are growne to sufficient abilitie to receive grafts, which is to be intended, that they must be at the least six or eight inches in compasse, for although lesse many times both doe and may receive grafts, yet they are full of debilitie and danger; and promise no assurance to the Worke-mans labour; you shall then begin to graft your Stockes with such Fruits as from Art and Experience are meet to bee conjoynd together, as thus: you shall graft Apples upon Apples, as the Pippin upon the great Costard, the Peare-maine upon the Ienetting, and the Apple-Iohn or blacke Annet upon the Pomewater or Crab-tree: to conclude, any Apple-stocke, Crab-tree, or Wilding, is good to graft Apples upon, but the best is best worthy. So for Peares, you shall graft them upon Peare-stockes, Quinces upon Quinces or Crab-trees, and not according to the opinion of the French-man, upon White-thorne or Willow, the Medlar upon the Service-tree, and the Service upon the Medlar, also Cherries upon Cherries, and Plumbe upon Plumbe, as the greater Abricots upon the lesser Abricots, the Peach, the Pige, or the Damson-tree; and to speake generally without wasting more Paper, or making a long circumstance to slender purpose, the Damson-tree is the onely principall best stocke whereupon to graft any kinde of Plumbe or Stone-fruit whatsoever.

The mixing
of Stockes and
Grafts.

After you have both your Stockes ready, and know

The choise of
Grafts.

which grafts to joyne with which stockes, you shall then learne to cut and chuse your Grafts in this manner: looke from what tree you desire to take your grafts, you shall goe unto the very principall branches thereof, and looke up to the upper ends, and those which you finde to bee sayrest, smootheest, and fullest of sappe, having the little knots, buds, or eyes standing close and thicke together, are the best and most perfect, especially if they growe upon the East side of the tree, whereon the Sunne first looketh; these you shall cut from the tree in such sort, that they may have at least three fingers of the old wood joyning to the young branch, which you shall know both by the colour of the barke, as also by a little round seame which maketh as it were a distinction berwixt the severall growths. Now you shall ever, as neere as you can, chuse your grafts from a young tree, and not from an old, and from the toppes of the principall branches, and not from the midst of the tree, or any other superfluous arme or cyon; now if after you have got your grafts, you have many dayes journeyes to carry them, you shall fould them in a few fresh mouldes, and binde them about with hay, and hay-ropes, and so carry them all day, and in the night bury them all over in the ground, and they will containe their goodnesse for a long season.

How to graft
in the cleft.

Having thus prepared your Grafts, you shall then begin to graft, which worke you shall understand may bee done in every moneth of the yeere, except November and October, but the best is to beginne about Christmas for all early and forward fruit, and for the other, to stay till March: now having all your Implements and Necessaries about you, fit for the Grafting, you shall first take your grafts, of what sort soever they be, and having cut the neather ends of them round and smooth without raising of the barke, you shall then with a sharpe knife, made in the proportion of a great pen-knife, slice downe each side of the grafts, from the seame or knot which parts the old wood from the new, even to the neather end, making it flat and
thin

thin, chiefly in the lowest part, having onely a regardfull eye unto the pith of the graft, which you may by no meanes cut or touch, and when you have thus trimmed a couple of grafts, for moe I doe by no meanes allow unto one stocke, although sundry other skilfull workmen in this Art allow to the least stocke two grafts, to the indifferent great three, and to the greatest of all foure, yet I affirme two are sufficiently enough for any stocke whatsoever, and albeit they are a little the longer in covering the head, yet after they have covered it, the tree prospereth more in one yeare, then that which containeth foure grafts shall doe in two, because they cannot have sap enough to maintaine them, which is the reason that trees for want of prosperitie, grow crooked and deformed: but to my purpose. When you have made your grafts ready, you shall then take a fine thin sawe, whose teeth shall be filed sharpe and even, and with it (if the stocke be exceeding small) cut the stocke round off within lesse then a foote of the ground, but if the stocke be as bigge as a mans arme, then you may cut it off two or three foote from the ground, and so consequently the bigger it is, the higher you may cut it, and the lesser, the neerer unto the earth: as soone as you have sawne off the upper part of the stocke, you shall then take a fine sharpe chissell, somewhat broader then the stocke, and setting it even upon the midst of the head of the stocke somewhat wide of the pith, then with a mallet of wood you shall strike it in and cleave the stocke, at least foure inches deepe, then putting in a fine little wedge of Iron, which may keepe open the cleft, you shall take one of your grafts and looke which side of it you intend to place inward, and that side you shall cut much thinner then the outside, with a most heedfull circumspection that by no meanes you loosene or raise up the barke of the graft, chiefly on the outside: then you shall take the graft, and wetting it in your mouth, place it in one side of the cleft of the stocke, and regard that the very knot or seame which goes about the graft, parting the olde wood from the new, doe rest directly

rectly upon the head of the stocke, and that the out-side of the graft doe agree directly with the out-side of the stock, joyning barke unto barke, and sap unto sap, so even, so smooth, and so close, that no Ioyners worke may bee discerned to joyne more artificially: which done, upon the other side of the stocke, in the other cleft, you shall place your other Graft, with full as much care, diligence, and every other observation: when both your grafts are thus orderly and artificially placed, you shall then by setting the haft of your Chissell against the stocke, with all lenitie and gentleness, draw forth your wedge, in such sort that you doe not displace or alter your grafts, and when your wedge is forth, you shall then looke upon your grafts, and if you perceive that the stocke doth pinch or squeeze them, which you may discern both by the straitnesse and bending of the outmost barke, you shall then make a little wedge of some greene sappy wood, and driving it into the cleft, ease your grafts, cutting that wedge close to the stocke. When you have thus made both your grafts perfect, you shall then take the barke of either Apple-tree, Crab-tree or Willow-tree, and with that barke cover the head of the stocke so close, that no wet, or other annoyance may get betwixt it and the stocke, then you shall take a convenient quantitie of clay, which indeed would be of a binding mingled earth, and tempering it well, either with mosse or hay, lay it upon the barke, and daube all the head of the stock, even as low as the bottome of the grafts, more then an inch thicke, so firme, close, and smooth as may be, which done, cover all that clay over with soft mosse, and that mosse with some ragges of woollen cloath, which being gently bound about with the inward barks of Willow, or Osyar, let the graft rest to the pleasure of the highest: and this is called grafting in the cleft.

Notes.

Now there be certaine observations or caveats to be respected in grafting, which I may not neglect: as first, in trimming and preparing your grafts for the stocke: if the grafts be either of Cherry, or Plumbe, you shall not
cur

cut them so thinn as the grafts of Apples, Quinces, or Medlars, because they have a much larger and rounder pith, which by no meanes must be toucht, but fortified and preserved, onely to the neather end you may cut them as thin as is possible, the pith onely preserved.

Secondly, you shall into your greatest stockes put your greatest grafts, and into your least, the least, that there may be an equall strength and conformitie in their conjunction.

Thirdly, if at any time you be inforced to graft upon an olde tree, that is great and large, then you shall not graft into the body of that tree, because it is impossible to keep it from putrifaction and rotting before the grafts can cover the head, but you shall choose out some of the principall armes or branches, which are much more slender, and graft them, as is before shewed, omitting not daily to cut away all cyons, armes, branches, or superfluous sprigs which shall grow under those branches which you have newly grafted: but if there be no branch, small or tender enough to graft in, then you shall cut away all the maine branches from the stocke, and covering the head with clay and mosse let it rest, and within three or foure yeares it will put forth new cyons, which will be fit to graft upon:

Fourthly, if when you either sawe off the top of your stocke, or else cleave the head, you either raise up the barke or cleave the stocke too deepe, you shall then saw the stocke againe, with a little more carefulnesse, so much lower as your first error had committed a fault.

Fifthly, you shall from time to time look to the binding of the heads of your stocks, inso much, that if either the clay do shrink away, or the other coverings doe loosen, by which defects, ayre, or wet, may get into the incision, you shall presently with all speed amend and repaire it.

Lastly, if you graft in any open place where cattell doe graze, you shall not then forget as soone as you have finished your worke, to bush or hedge in your graft, that it may be defended from any such negligent annoyance. And thus

much for this ordinary manner of grafting, which although it bee generall and publike to most men that know any thing in this art, yet is it not inferiour, but the principallest and surest of all other.

CHAP. V.

Of divers other wayes of grafting, their uses and purposes.



Although for certainty, use, and commodity, the manner of grafting already prescribed is of sufficiencie enough to satisfie any constant or reasonable understanding, yet for novelty sake, to which our Nation is infinitely addicted, and to satisfie the curious, who thinke their judgments disparaged if they heare any authorized traveller talke of the things which they have not practised. I will proceed to some other more quaint manners of grafting, and the rather because they are not altogether unnecessary, having both certainty in the worke, pleasure in the use, and benefit in the serious employing of those howers which else might challenge the title of idlenesse, besides they are very well agreeing with the soyles and fruits of this Empire of *Great Britaine*, and the understandings of the people, for whose service or benefit, I onely undergoe my travell.

You shall understand therefore, that there is another way to graft, which is called grafting betweene the barke and tree, and it is to bee put in use about the latter end of *February*, at such time as the sappe beginnes to enter into the trees: and the stockes most fit for this manner of grafting, are those which are oldest and greatest, whose graine being rough and uneven, either through shaking or twinding, it is a thing almost impossible to make it cleave in any good fashion, so that in such a case it is meete that the

the grafter exercife this way of grafting betwixt the barke and the tree, the manner whereof is thus:

First, you shall dresse your grafts in fuch sort as was before described when you grafted in the cleft, onely they shall not be so long from the knot or seame downeward by an inch or more, neither so thicke, but as thinne as may be, the pith onely preserved, and at the neather end of all you shall cut away the barke on both sides, making that end smaller and narrower then it is at the joynt or seame, then sawing off the head of the stocke, you shall with a sharpe knife pare the head round about, smooth and plaine, making the barke so even as may be, that the barke of your grafts and it may joyne like one body, then take a fine narrow chisell, not exceeding sharpe, but somewhat rebated, and thrust it hard downe betwixt the barke and the tree, somewhat more then two inches, according to the just lengh of your graft, and then gently thrust the graft downe into the same place, even close unto the joynt, having great care that the joynt rest firme and constant upon the head of the stocke, and thus you shall put into one stocke not above three grafts at the most, however either other mens practice, or your owne reading doe perswade you to the contrary. After your grafts are fixt and placed, you shall then cover the head with barke, clay, and mosse, as hath beene formerly shewed: also you shall fasten about it some bushes of thorne, or sharpe whinnes, which may defend and keepe it from the annoyance of Pyc-annats, and such like great birds.

Grafting betweene the barke and tree.

There is another way of grafting, which is called grafting in the scutchion, which howsoever it is esteemed, yet is it troublelome, incertaine, and to small purpose: the season for it is in Summer, from *May* till *August*, at what time trees are fullest of sappe, and fullest of leaves, and the manner is thus: take the highest and the principallest branches of the toppe of the tree you would have grafted, and without cutting it from the old wood, choose the best eye and budding place of the eyon, then take another such

Grafting in the scutchion.

like eye or budde, being great and full, and first cut off the leafe hard by the budde, then hollow it with your knife the length of a quarter of an inch beneath the budde, round about the barke, close to the sap, both above and below, then slit it downe twice so much wide of the budde, and then with a small sharpe chisell raise up the scutchion, with not onely the budde in the midst, but even all the sap likewise, wherein you shall first raise that side which is next you, and then taking the scutchion betweene your fingers, raise it gently up without breaking or bruising, and in taking it off, hold it hard unto the wood, to the end, the sap of the budde may abide in the scutchion, for if it depart from the barke, and cleave to the wood, your labour is lost, this done, you shall take another like cyon, and having taken off the barke from it, place it in the others place, and in taking off this barke, you must be carefull that you cut not the wood, but the barke onely, and this done, you shall cover it all over with redde waxe, or some such glutenous matter; as for the binding of it with hempe and such trumpery; it is utterly disallowed of all good grafters: this manner of grafting may be put in practice upon all manner of cyons, from the bignesse of a mans little finger, to the bignesse of a slender arme.

Grafting with
the leafe.

Not much unlike unto this, is the grafting with the Leafe, and of like worth, the art whereof is thus: any time betwixt the midst of *May*, untill the midst of *September*, you shall chuse, from the top of the Sun-side of the tree, the most principall young cyon you can see, whose barke is smoothest, whose leaves are greatest, and whose sappe is fullest, then cutting it from the tree, note the principall leafe thereof, and cut away from it all the wood more then about an inch of each side of the leafe, then cutting away the undermost part of the barke with your knife, take peece meale from the barke all the wood and sappe, save onely that little part of woode and sappe which feedeth the leafe, which in any wise must be left behind, so that the graft will carry this figure:

Then



Then go to the body, arme, or branch of that tree which you intend to graft, which is to be presupposed, must ever have a smooth and tender barke, and with a very sharpe knife slit the barke, two slits at least, two inches long a peece, and about halfe an inch or more distance betweene the two slits: then make another slit crosse-wise overthwart, from long slit to long slit, the figure whereof will be thus:



Then with your knife raise the barke gently from the
T 3 tree,

tree, without breaking, cracking, or bruising: then take your graft, and putting it under the barke, lay it flat unto the sappe of the tree, so as that little sapp which is left in the leafe, may without impediment cleave to the sappe of the tree, then lay downe the barke close againe and cover the graft, and with a little untwound Hempe, or a soft woollen list, binde downe the barke close to the graft, and then cover all the Incisions you have made with greene waxe: by this manner of grafting you may have upon one tree sundry fruits, as from one Apple-tree; both Pippins, Peare-maines, Russettings, and such like; nay, you may have upon one tree ripe fruit all Summer long, as Tennetings from one branch, Cissings from another, Wibournes from another, Costards and Queene-Apples from others, and Pippins and Russettings from others, which bringeth both delight to the Eye, and admiration to the sense: and yet I would not have you imagine, that this kinde of grafting doeth onely worke this effect, for as before I shewed you, if you graft in the cleft, (which is the safest way of all grafting) sundry fruites upon sundry armes or boughes, you shall likewise have proceeding from them sundry sorts of fruits, as either Apples, Plumbes, Peares, or any other kinde, according to your composition and industry; as at this day wee may daily see in many great mens Orchards.

Grafting on
the tops of
trees.

There is yet another manner of grafting, and it is of all other especially used much in *Italie*, and yet not any thing disagreeable with our Climate, and that is to graft on the small cyons which are on the toppes of fruit-trees, surely an experience that carrieth in it both difficultie and wonder, yet being put to approbation, is no lesse certaine then any of the other, the manner whereof is thus: you shall first after you have chosen such and so many grafts as you doe intend to graft, and trim'd them in the same manner as you have beene taught formerly for grafting within the cleft, you shall then mount up into the top of the tree, upon which you meane to graft, and there make choise of the
highest

highest and most principall cyons (being cleane barkt and round) that you can preceive to growe from the tree, then laying the graft, and the cyon upon which you are to graft, together, see that they be both of one bignesse and roundnesse: then with your grafting knife cut the cyon off betweene the old wood and the new, and cleave it downe an inch and a halfe, or two inches at the most: then put in your graft (which graft must not bee cut thinner on one side, then on the other, but all of one thickenesse) and when it is in, see that the bark of the graft both above and below, that is, upon both sides, doe ioyne close, even, and firme with the barke of the branch or cyon, and then by folding a litle soft tow about it, keepe them close together, whilft with clay, mosse, and the in-moist barke of Oliars you lappe them about to defend them from ayre, winde, and tempests. And herein you shall observe to make your graft as short as may be for the shortest are best, as the graft which hath not above two or three knots or buds, and no more. You may, if you please, with this manner of grafting graft upon every severall cyon, a severall fruit, and so have from one tree many fruits, as in case of grafting with the lease, and that with much more speed, by as much as a well-grown graft is more forward and able, then a weake tender lease. And in these severall wayes already declared, consisteth the whole Art and substance of Grafting: from whence albeit many curious braines may, from prevaricating tricks, beget shewes of other fashions, yet when true judgement shall looke upon their workes, he shall ever find some one of these Experiments the ground and substance of all their labours, without which they are able to doe nothing that shall turne to an assured commoditie.

Now when you have made your selfe perfect in the sowing, setting, planting and grafting of trees, you shall then learne to know the effects, wonders, and strange issues which doe proceed from many quaint motions and helps in Grafting, as thus: If you will have Peaches, Cherries, Apples, Quinces, Medlars, Damsons, or any
The effects of grafting.
 Plumbe

Plumbe whatsoever, to ripen early, as at the least two moneths before the ordinary time, and to continue at least a moneth longer then the accustomed course, you shall then graft them upon a Mulberry stock: and if you will have the fruit to taste like spice, with a certaine delicate perfume, you shall boile honey, the powder of Cloves and Soaxe together, and being cold annoynt the grafts therewith before you put them into the cleft; if you graft Apples, Peares, or any fruit upon a Fig-tree stocke, they will beare fruit without blooming: if you take an Apple graft, & a Peare graft of like bignesse, and having cloven them, joyne them as one bodie in grafting, the fruit they bring forth will bee halfe Apple, and halfe Peare, and so likewise of all other fruits which are of contrary tastes and natures: if you graft any fruit-tree, or other tree upon the Holly, or upon the Cypresse, they will be greene, and keepe their leaves the whole yeere, albeit the Winter be never so bitter.

If you graft either Peach, Plumbe, or any stone-fruit upon a Willow stocke, the fruit which commeth of them will be without stones.

If you will change the colour of any fruit, you shall boare a hole slope-wise with a large auger into the body of the Tree, even unto the pith, and then if you will have the fruit yealow, you shall fill the hole with Saffron dissolved in water: if you will have it red, then with Sanders, & of any other colour you please, and then stop the hole up close, and cover it with red or yellow wax: also if you mix the colour with any spice or perfume, the fruit will take a relish or taste of the same: many other such like conceits and experiments are practised amongst men of this Art, but sith they more concerne the curious then the wise, I am not so carefull to bestow my labour in giving more substantiall satisfaction, knowing curiositie loves that best, which proceedes from their most paine, and am content to referre their knowledge to the searching of those Bookes which have onely strangeness for their subject, resolved that this I have written is fully sufficient for the plaine English Husbandman.

CHAP. VI.

*Of the replanting of Trees, and furnishing
the Orchard.*



AS soone as your seeds, or sets, have brought forth plants, those plants, through time, made able, and have received grafts, and those grafts have covered the heads of the stocks & put forth goodly branches, you shall then take them up and replant them, (because the sooner it is done, the better it is done) in those severall places of your Orchard which before is appointed, and is intended to be prepared, both by dunging, digging, and every orderly labour, to receive every severall fruit. And herein you shall understand, that as the best times for grafting are every month (except *October* and *November*) and at the change of the moone, so the best times for replanting, are *November* and *March* onely, unlesse the ground be cold and moist, and then *January* or *February* must be the soonest alwaies, excepted that you doe not replant in the time of frost, for that is most unwholsome.

Now when you will take up your trees, which you intend to replant in your Orchard, you shall first with a spade bare all the maine branches of the roote, and so by degrees digge and loosen the earth from the roote, in such sort, that you may with your owne strength raise the young tree from the ground, w^hich done, you shall not, according to the fashion of *France*, dismember, or disroabe the tree of his beauties, that is to say, to cut off all his upper branches and armes, but you shall diligently preserve them: for I have seene a tree thus replanted after the fall of the lease to bring forth fruit in the Summer following: but if the tree you replant be old, then it is good to cut off the maine branches within a foote of the stocke, lest the

The taking up
of trees.

sappe running upward, and so forsaking the root too suddenly doe kill the whole tree.

When you have taken your tree up, you shall observe how, and in what manner, it stood, that is, which side was upon the South, and received most comfort from the Sunne, and which side was from it and received most shadow and bleaknesse, and in the same sort as it then stood, so shall you replant it againe: this done, you shall with a sharpe cutting-knife, cut off all the maine rootes, within halfe a foote of the tree, onely the small thriddes or twist-rootes you shall not cut at all: then bringing the plant into your Orchard, you shall make a round hole in that place where you intend to set your tree (the rankes, manner, distance and forme whereof hath beene already declared, in the first Chapter) and this hole shalbe at least foure foote overthwart every way, and at least two foote deepe, then shall you fill up the hole againe, fiftene inches deepe, with the finest blacke mould, tempered with Oxe dung, that you can get, so that then the hole shalbe but nine inches deepe, then you shall take your tree and place it upon that earth, having care to open every severall branch and thrid of the roote, and so to place them that they may all looke downe into the earth, and not any of them to look back and turne upward: then shall you take of the earth from whence your tree was taken, and tempering it with a fourth part of Oxe dung, and slekt Sope-ashes (for the killing of wormes) cover all the roote of your tree firmly and strongly: then with greene soddes, cut and joyned artificially together, so sodde the place that the hole may hardly be discerned. Lastly, take a strong stake, and driving it hard into the ground neere unto the new planted tree, with either a soft hay rope, the broad barke of Willow, or some such like unfretting band, tye the tree to the stake, and it will defend it from the rage of winde and tempests, which should they but shake or trouble the roote, being new planted, it were enough to confound and spoyle the tree for ever.

Now, although I have under the title and demonstration

tion of replanting one tree given you a generall instruction for the replanting of all trees whatsoever, yet forasmuch as some are not of that strength and hardnes to indure so much as some others will, therefore you shall take these considerations by the way, to fortifie your knowledge with.

First, you shall understand that all your dainty and tender grafted Plumbes, and fruits, as Abricots, Peaches, Damaske-Plumbes, Verdochyos, Pescods, Emperials, and divers such like, together with Orrenges, Cytrons, Almonds, Olives, and others, which indeede are not familiar with our soyles, as being neerer neighbours to the Sunne, doe delight in a warme, fat, earth, being somewhat sandy, or such a clay whose coldnesse by Manure is corrected, and therefore here with us in the replanting of them, you cannot bestow too much cost upon the mould: as for the Damson, and all our naturall English Plumbes, they love a fat, cold, earth, so that in the replanting of them, if you shall lay too much dung unto the root, you shall through the abundant heate, doe great hurt unto the tree. The Cherry delighteth in any clay, so that upon such soyle you may use lesse Manure, but upon the contrary you cannot lay too much. The Medlar esteemeth all earths alike, and therefore whether it be Manured or no, it skilles not, sunne and shadow, wet and driness, being all of one force or efficacie. The Peare and Apple-tree delights in a strong mixt soyle, and therefore indureth Manure kindly, so doth also the Quince and Warden: Lastly the Filbert, the Hasel, and the Chesnut, love cold, leane, moist, and sandy earths, inasmuch that there is no greater enemy unto them then a rich soyle: so that in replanting of them you must ever seeke rather to correct then increase fertility.

You shall also understand that all such fruit-trees as you doe plant against the walles of your Orchard (of which I have spoken already, & deciphered out their places) you shall not suffer to grow as of themselves; round, and from the wall, but at the times of pruning and dressing of them (which is ever at the beginning of the spring and immedi-

ately after the fall) you shall as it were plash them, and spread them against the wall, foulding the armes in loopes of leather, and naying them unto the wall: and to that end you shall place them of such a fit distance one from another, that they may at pleasure spread and mount, without interruption: the profite whereof is at this day seene almost in every great mans Orchard: and although I have but onely appointed unto the wall the most quaint fruits of forraine nations; yet there is no fruit of our owne, but if it be so ordered it will prosper and bring forth his fruit better and in greater abundance. And thus much for the replanting of trees and furnishing of a well proportioned Orchard.

CHAP. VII:

Of the Dressing, Duncing, Proyning, and Preserving of Trees.



It is after all the labour spent of ingendring by seede, of fortifying and inabling by planting, and of multiplying by grafting, it is to little or no purpose if the trees bee not maintained and preserved by dressing, duncing, and proyning, I will therefore in this place shew you what belongs to that office or duty, and first, for the dressing of trees: you shall understand that it containeth all whatsoever is meet for the good estate of the tree, as first, after your tree is planted, or replanted, if the season shall fall out hot, dry, and parching, inasmuch, that the moisture of the earth is sucked out by the attraction of the Sunne, and so the tree wanteth the nutriment of moisture, in this case you shall not omit every morning before the rising of the Sun, and every evening alter the set of the Sunne, with a great watering-pot filled with water, to water and bathe the roots of the trees, if they be yong trees, and newly planted, or replanted, but not otherwise: for

if:

if the trees be old, and of long growth, then you shall save that labour, and onely to such old trees you shall about the midst of *November*, with a spade, digge away the earth from the upper part of the rootes, and lay them bare untill it be mid *March*, and then mingling such earth as is most agreeable with the fruit and Oxe-dung and Sope-ashes together, so cover them againe, and tread the earth close about them: as for the uncovering of your trees in Summer I doe not hold it good, because the reflection of the Sunne is somewhat too violent and dryeth the root, from whence at that time the sappe naturally is gone: you shall also every Spring and Fall of the leafe, cleanse your fruit trees from mosse, which proceeding from a cold and cankerous moisture, breedeth dislike, and barrainness in trees: this mosse you must take off with the backe of an old knife, and leave the barke smooth, plaine, and unraced: also if you shall dung such trees with the dung of Swine, it is a ready way to destroy the mosse.

*barrenness
rooky.*

*taking
away Mosse.*

Swines dung

After you have drest and trimmed your trees, you shall then proyne them, which is to cut away all those superfluous branches, armes, or cyons, which being either barren, bruised, or misplaced, doe like droanes, steale away that nutriment which should maintaine the better deserving sinewes, and you shall understand that the best time for proyning of trees, is in *March* and *April*, at which time the sappe ascending upward, causeth the trees to burde: the branches you shall cut away, are all such as shall grow cut of the stocke underneath the place grafted, or all such as by the shaking of tempests shall grow in a disorderly and ill fashioned crookedness, or any other, that cut of a well tempered judgement shall seeme superfluous and burdensome to the stocke from whence they spring, also such as have by disorder beene broken, or maimed and all these you shall cut away with a hooke knife, close by the tree, unlessse you have occasion by some misfortune to cut away some of the maine and great armes of the tree, and then you shall not use your knife for feare of tearing the barke,

*Proyning of
Trees.*

but taking your sawe you shall sawe off those great armes close by the tree, neither shall you sawe them off downward but upward, lest the waight of the arme breake the barke from the body: And herein you shall also understand that for as much as the mischances which beget these dismembrings doe happen at the latter end of Summer, in the gathering of the fruit, and that it is not fit such maimed and broken boughes hang upon the tree till the Spring, therefore you shall cut them off in the Winter time, but not close to the tree by almost a foote, and so letting them rest untill the spring, at that time cut them off close by the tree. Now if you find the superfluitie of branches which annoy your trees to be onely small cyons, springing from the rootes of the trees, as it often hapneth with all sorts of Plumbe-trees, Cherry-trees, Nut-trees, and such like, then you shall in the winter, bare the roots of those trees, and cut off those cyons close by the roote: but if your trees be broused or eaten by tame-Deere, Goates, Sheepe, Kine, Oxen, or such like, then there is no helpe for such a misfortune but onely to cut off the whole head and graft the stocke anew.

Of Barke.
bound.

Next to the proyning of trees, is the preserving, physicking, and curing of the diseases of trees, to which they are subject as well as our naturall bodies: and first of all, there is a disease called Barke-bound, which is when the barke, through a milke and leperous drineffe, bindeth in the tree with such straightnesse that the sappe being denied passage the body growes into a consumption: it is in nature like unto that disease which in beasts is called hide-bound, and the cure is thus: at the beginning of *March* take a sharpe knife, and from the toppe of the body of the tree, to the very roote, draw downe certaine flits, or incisions, cleane through the barke, unto the very sappe of the tree, round about the tree, and then with the backe of your knife, open those flits and annoint them all through with Tarre, and in short space it will give liberty unto the tree to encrease and grow: this disease commeth by the rubbing of cartell against the tree, especially Swine, who are very poison unto all plants.

There

There is another disease in fruit-trees, called the Gall, and it eateth and consumeth the barke quite away, and so in time kills the tree : the cure is to cut and open the barke which you see infected, and with a chissell to take away all that is foule and putrified, and then to clappe Oxe dunge upon the place, and it will helpe it, and this must bee done ever in winter.

The Canker in fruit trees is the consumption both of the barke and the body, and it commeth either by the dropping of trees one upon another, or else when some hollow places of the tree retaine some raine water in them, which fretting through the barke, poysoneth the tree : the cure is to cut away all such boughes as by dropping breed the evill, and if the hollow places cannot be smooth and made even, then to stoppe them with clay, waxe, and sope-ashes mixt together.

Of the Canker.

If the barkes of your trees be eaten with wormes, which you shall perceive by the swelling of the barke, you shall then open the barke and lay there-upon swines dung, sage, and lime beaten together, and bound with a cloath fast to the tree, and it will cure it : or wash the tree with towepisse and vinegar and it will helpe it.

Of worme-eaten barkes.

If your young trees be troubled with Pismiers, or Snailles, which are very noy some unto them, you shall take unsleckt lime and sope-ashes. and mingling them with wine-lees, spread it all about the roote of the trees so infected, and anoint the body of the tree likewise therewith, and it will not onely destroy them but give comfort to the tree : the foot of a chimney or Oake saw-dust spread about the roote will doe the same.

Of Pismiers and Snailles.

If Caterpillers doe annoy your young trees, who are great devourers of the leaves and young buddes, and spoylers of the barke, you shall, if it bee in the summer time, make a very strong brine of water and salt, and either with a garden pompe, placed in a tubbe, or with squirts which have many hoales, you shall every second day water and wash your trees, and it will destroy them, because

Of Caterpillers, and Earwiggs.

Of the barrenesse of
Trees.

the Caterpillar naturally cannot indure moisture, but if nevertheless you see they doe continue still upon your trees in Winter, then you shall when the leaves are fallen away, take dankish straw, and setting it on fire, sincere and burne them from the tree, and you shall hardly ever be troubled with them againe upon the same trees: roubles of hay laid on the trees, will gather up Earewigs and kill them.

If your trees bee barren, and albeit they flourish and spread their leaves bravely, yet bring forth no fruit at all, it is a great sicknesse, and the worst of all other: therefore you shall understand it proceedeth of two causes: first, of too much fertilitie, and fatnesse of the ground, which causeth the leafe to put forth and flourish in such unnaturall abundance, that all such sappe and nutriment as should knit and bring forth fruit, turnes onely unto leafe, cyons, and unprofitable branches, which you shall perceive both by the abundance of the leaves, and by the colour also, which will be of a more blacker and deeper greene, and of much larger proportion then those which have but their naturall and proper rights: and the cure thereof is to take away the earth from the root of such trees, and fill up the place againe with other earth, which is of a much leaner substance: but if your tree have no such infirmities of fatnesse, but beareth his leaves and branches in good order, and of right colour, and yet notwithstanding is barraine, and bringeth forth little or no fruit, then that disease springeth from some naturall defect in the tree, and the cure thereof is thus: first, you shall unbare the root of the tree, and then noting which is the greatest and principallest branch of all the root, you shall with a great wimble boare a hole into that root, and then drive a pinne of old drie Ashe into the same, (for Oake is not altogether so good) and then cutting the pinne off close by the root, cover all the head of the pinne with yellow waxe, and then lay the mould upon the root of the tree againe, and tread it hard and firmly downe, and there is no doubt but the tree will beare the yeere following: In *France* they use for this infirmities to boare
a hole

a hole in the body of the tree slope-wise, somewhat past the heart, and to fill up the hole with life honey and Rose-water mixt together, and incorporated for at least xxiiij. houres, and then to stop the hole with a pipe of the owne wood: also if you wash the rootes of your trees in the draine water which runneth from your Barley when you sleepe it for Malt, it will cure this disease of barrenesse.

If the fruit which is upon your trees be of a bitter and loomie taste, to make it more pleasant and sweet, you shall wash your tree all over with Swines dung, and water mixt together, and to the rootes of the trees you shall lay earth and Swines dung mixt together, which must be done in the month of *January* and *February* onely, and it will make the fruit taste pleasantly. And thus much for the dressing and preserving of trees.

Of the bitter-
nesse of Fruit.

CHAP. VIII.

Of the Vine, and of his ordering.



As much as the nature, temperature, and climate of our soyle, is not so truly proper and agreeing with the Vine as that of *France*, *Italy*, *Spain*, and such like, and sith we have it more for delight, pleasure, and prospect, then for any peculiar profit, I will not undertake *Monsieur Lybaults* painefull labour, in describing every curious perfection or defect that belongs thereunto, as if it were the onely jewell and commodity of our kingdome, but onely write so much as is fitting for our knowledge, touching the maintenance, increase, and preservation thereof, in our Orchards, Gardens, and other places of recreation.

First, then to speake of the planting or setting of the Vine, your greatest diligence must be, to seeke out the best setting the plants, and if that which is most strange, are great Vine. and pleasant be the best, then is that grape which is called

Of planting or
the best setting the
Vine.

the Muscadine, or Sacke grape, the best, and have their Beginning either from *Spain*, the *Canary* Islands, or such like places: next to them is the *French* grape, of which there be many kinds; the best whereof is the grape of *Orléans*; the next the grape of *Orléans*; the next of *Burgundy*, and the worst of *Italy*, and for any of these but by industry will prosper in our English gardens: when therefore you chuse your plants, you shall chuse such of the young cyons as springing from the old wood, you may in the cutting cut at least a joynt or two of old wood with the young, for the old will take sooner, and this old wood must be at least seven or eight inches long, and the young cyon almost a yard, and the thicker and closer the joynts of the young cyon are, so much the better they are: and the fit time for cutting and gathering these sets are in mid *January*, then having prepared, digged, and dunged your earth the winter before, you shall at the latter end of *January* take two of these sets, or plants, placing them according to this figure:



And lay them in the earth slope-wise, at least a foote deepe, leaving out of the earth, uncovered, not above foure or five joynts, at the most, and then cover them with good earth firmly, closely, and strongly, having regard to raise those cyons which are without the earth directly upward, observing after they be set, once in a month to weede them, and keepe them as cleane as is possible: for nothing is more noysome unto them then the suffocating of weeds; also you shall not suffer the mould to grow hard or bind about the rootes, but with a small spade once in a fortnight to loosen and breake the earth, because their rootes are so tender that the least straining doth strangle and confound them. If the season doe grow dry, you may use to water them, but not in such sort as you water other plants, which is to sprinkle water round about the earth of the rootes, but you shall with a round Iron made for the purpose, somewhat bigger then a mans finger, make certaine holes into the earth, close upon the roots of the Vine, and powre therein either water, the dregs of strong Ale, or lees of Wine, or if you will you may mixe with the lees of Wine either Goates-milke, or Cowes-milke, and powre it into the holes, and it will nourish the Vine exceedingly, and not the Vine onely, but all sorts of dainty grafted Plumbs, especially Peaches.

Now for proyning the Vine, you shall understand that it is ever to be done after the fall of the leafe, when the sappe is descended downeward: for if you shall progne, or cut him either in the spring, or when the sappe is aloft, it will bleed so exceedingly, that with great difficulty you shall save the body of the tree from dying: and in proyning of the Vine you shall observe two things, the first, that you cut away all superfluous cyons and branches, both above and below, which either grow disorderly above, or fruitlessly below, and in cutting them you shall observe neither to cut the old wood with the young cyon, nor to leave above one head or leader upon one branch: secondly, you shall in proyning, slash and smooth the Vine

Of proyning
the Vine.

thinly against the wall, giving every severall branch and cyons his place, and passage, and not suffer it to grow loofely, rudely, or like a wild thorne, out of all obedience and proportion: for you must understand that your Grapes doe grow ever upon the youngest cyons, and if of them you shall preserve too many, questionlesse, for want of nourishment they will lose their vertue, and you your profit. Now if your Vine be a very old Vine, and that his fruit doth decay, either in quantitie or proportion; if then you finde he have any young cyons which spring from his root, then when you proyne him, you shall cut away all the old stocke, with in lesse then a handfull of the young cyons, and make them the leaders; who will prosper and continue in perfection a long time after, especially if you trim the rootes with fresh earth, and fresh dung: Again, if you be carefull to looke unto your Vine, you shall perceive these by every bunch of grapes containe small thridde-like cyons, which resemble two and wyays, curling and turning in many rings, these also take from the grapes very much nutriment, so that it shall be a labour very well employed to cut them away as you perceive them.

Experiments
of the Vine.

Now from the Vine there is gathered sundry experiments, as to have it taste more pleasant then the true nature of the grape, and to smell in the mouth odoriferously, or as if it were perfumed, which may be done in this sort: Take Damaske-rose-water, and boyle therein the powder of Cloaves, Cynamon, three graines of Amber, and one of Muske, and when it is come to bee somewhat thicke, take a round gouge and make a hole in the maine stocke of the Vine, full as deepe as the heart thereof, and then put therein this medicine, then stopping the hole with Cypress, or Juniper, lay Greene-wax therein on, and bind a linnen cloth about it, and the next grapes which shall spring from that Vine, will taste as if they were preserved or perfumed.

If you will have grapes without stones, you shall take your plants and plant the small ends downward and bee assured your desire is attained.

The

The Vine naturally of himselfe doth not bring forth fruit till it have beene ~~three yeares~~ planted: but if evening and morning for the first moneth you will bath his roope with Goats-milke or Cowes-milke, it will beare fruit the first yeare of his planting. Lastly, you may if you please graft one Vine upon another, as the sweet upon the sower, as the Muscadine grape, or greecke, upon the Rochell or Bordeaux, the Spanish, orlland grape, on the Gascoigne, and the Orleance upon any at all: and these compositions are the best, and bring forth both the greatest and pleasantest grapes: therefore whensoever you will graft one grape upon another, you shall doe it in the beginning of January, in this sort: first, after you have chosen and trimmed your grafts, which in all sorts must bee like the grafts of other fruits, then with a sharpe knife, you shall cleave the head of the Vine, as you doe other stockes and then put in your graft, or cyon, being made as thinne as may be, and see that the barkes and sappes joyne even and close together, then clay it, mosse it, and cover it, as hath beene before declared.

If your Vine grow too ranke and thicke of leaves, so that the sappe doth wast it selfe in them, and you thereby lose the profit of the fruit, you shall then bare all the rootes of the Vine, and cast away the earth, filling up the place againe with sand and ashes mingled together: but if the Vine be naturally of it selfe barraine, then with a goudge you shall make a hole halfe way through the maine body of the Vine, and drive into the hole a round pible stone, which although it goe straitly in, yet it may not fill up the hole, but that the sicke humour of the Vine may passe thorow thereat: then cover the roote with rich earth, and Ox dung mixt together, and once a day for a moneth water it with old pisse, or urine of a man, and it will make the tree fruitful: if the Vine bee troubled with Wormes, Snailles, Ants, Earwigges, or such like, you shall morning and evening sprinkle it over with cowes-pisse and vinegar mixt together & it will helpe it: thus much for ordering the Vine.

The medicinall
ning of the
Vine.

CHAP. IX.
The Office of the Fruiterer, or the Gatherer, and Keeper of Fruit.



For you have planted every severall quarter, ally, and border within your Orchard, with every severall fruit proper unto his place, and that you have placed them in that orderly and comely equipage which may give most delight to the eye, profit to the tree, and commendations to the workman, (according to the forme and order prescribed in the first Chapter) and that now the blessing of the highest, time, and your endeavours hath brought forth the harvest and recompence of your travell, so that you behold the long-expected fruit hang upon the trees, as it were in their ripenesse, wooing you to plucke, taste, and to deliver them from the wombs of their parents, it is necessary then that you learne the true office of the Fruiterer, who is in due season and time to gather those fruits which God hath sent him: for as in the husbanding of our graine if the Husbandman bee never so carefull, or skilfull, in ploughing, dunging, sowing, weeding and preserving his crop, yet in the time of harvest bee negligent, neither regarding the strength or ripenesse thereof, or in the leading and mowing respects not whether it be wet or dry, doth in that moments space loose the wages of his whole yeeres travell, getting but dirt from dirt, and losse from his negligence: so in like case holds it with all other fruits, if a man with never so great care and cost procure, yet if he be inrespective in the gathering, all his former businesse is vaine and to no purpose: and therefore I hold nothing more necessary then the relation of this office of the Fruiterer, which is the consummation and onely hope of our cost, and diligence, teaching us to gather wisely what we have planted warily,

wirily, and to eat with contentment what we have preferred with care. Now beeing thus advised, you shall know then, that of all Fruits (for the most part) the Cherry is the soonest ripe; as being one of the oldest children of the Summer; and therefore first of all to be spoken of in this place; yet are not all Cherries ripe at one instant, but some sooner then other some, according to the benefit of the Sunne, the warmth of the ayre, and the strength of sap in the branch on which the Cherry hangeth: they are a Fruit tender and pleasant; and therefore much subject to bee devoured and consumed with Birds of the smallest kindes, as Sparrowes, Robins, Starlings, and such like, especially the Jay, and the Bul-finch, who will devour them stones and all; even so fast as they ripen: for prevention whereof, if you have great abundance of Cherry trees, as maine hols that bee either one or manyakers in compasse, you shall then in divers places of your hols; as well in the midst, as our-corners, cause to bee erected up certaine long poles of Firre, or other wood, which may reach some what above the tops of the trees, and on the toppes of those poles you shall place certaine Clapp-milles, made of broken trenchers joyned together like styles, which being moved and carped about with the smallest fyre, may have notwithstanding the styles a certain little board, against which every style may clapp, and make up great noyse, which will affright and feare the birds from your trees: these milles you shall commonly see in Husbandmens yards placed on their stakkes or howvell of Cornes, which doth preserve them from fowle and vermin: but for want of these clapp-milles you must have some boy or young fellow that must every morning from the dawning of the day till the Sunne bee more then an houre high, and every evening from five of the clocke till the sunne up and downe your ground, whooping, shouting, and making of a great noyse; or now and then shooting of some Musquetts, or other Peece; but by no means use slings or throwing of Stones, lest by the mischance of

Of gathering
and preserving
Cherries.

of his hand bee either beate downe the fruit or bruise the trees. In this sort having preserved your Cherries from destruction, you shall then know their ripeness by their colours, for ever those which are most red, are most ripe, and when you see any that are ripe, you shall take a light ladder, made either of fyrr or fallow, and setting it carefully against the branches, so as you neither bruise them nor the fruit, you shall gather those you finde ripe, not taking the fruit from the stalke, but nipping the stalke and fruit both together from the tree: also you shall bee carefull in gathering to handle or touch the Cherry so little as may bee, but the stalke onely, especially if your hands bee hot, or sweaty, for that will change the colour of your Cherries, and make them looke blacke: if there bee any ripe Cherries which hang out of the reach of your hands, then you shall have a fine small gathering hooke of wood, whose bout shall bee made round, and smooth, for nipping the bark of the branches, and with it you shall gently pull unto you those branches you cannot reach: you shall also have a little round basket of almost a foote deepe, made with a five bottome, having a handle thwart the toppe, to which a small hooke being fastned, you shall with that hooke hang the basket by you on some convenient cyon, and as you gather the Cherries, gently lay them downe into the same, and when you have filled your basket you shall descend and empty it into larger great baskets made of the same fashion, with five bottomes, and having underneath two broad lathes or splinters, at least three fingers broad a peece, within foure inches one of the other, and going both one way tresse overthwart the basket, that if either man or woman shall carry them upon their heads, which is the best manner of carriage, then the splinters may defend the bottome of the basket from the head of the party, and keepe the Cherries from hurt or bruising, and if you have occasion to carry your Cherries farre, and that the quantity grow beyond the support of a man, then you shall packe them in hampers, panniers made with
false

false bottomes like sives, and finely lined on the outside with white straw, and so being closely trust on each side a horses backe, to carry them whitherso you please. You shall by no means suffer your Cherries to lye in any great or thicke heapes one upon another, but untill you sell them, or use them, lay them as thinne as may be, because they are apt of themselves to sweat and catch heate, and that heate doth soon deprive them of the glory of their colour. When you gather any Cherries to preserve, you shall gather those which are the greatest, the ripest, you shall pull them from their stalkes one by one, and use them at furthest within foure and twenty houres after the time they are gotten.

For the gathering of Plumbes in generall, it is in the same manner as you did gather your Cherries, both with such alike ladder, such alike hookes, and such like vessels, onely some more speciall observations are to bee observed in gathering your dainty grafted Plumbes, then of the others, which are of a more hard and lasting nature. You shall know then what for gathering of Abricots, Peaches, Dace Plumbes, and such like grafted Plumbes, you shall duly consider when they are perfectly ripe, which you shall not judge by their dropping from the tree, which is a signe of over much ripeness, tending to rottenness, but by the true mixture of their colour, and perfect change from their first complexion: for when you shall perceive that there is no greenness nor hardness in their out sides, no, not so much as the setting on of the stalk, you may then judge that they are ready to be gathered, and for a perfect tryall thereof you may if you please take one which you thinke ripest from the tree, and opening it, if you see the stone come out cleane and dily wais, and not any of the part of the fruit cleaving unto it, then you may assure your selfe that the fruit is ready to be gathered, which you shall with great diligence, and care gather, not by any means laying one Plumbe upon another, but each severally by it selfe: for these dainty Plumbes are naturally so tender that they can't touch, though of themselves, both bruise them,

The gathering of stone Fruit.

to be gathered to
admitt

and occasion rottenesse. Now when you have gathered them, if either you have desire to send them any journey, as in gratulation to your friends, or for other private commoditie, you shall take some close, smooth boxe, answerable to the store of fruit you are to send, and first line it within all over with white paper, then lay your Plumbes one by one all over the bottome of the boxe, then covering them all over with white paper, lay as many more upon the toppe of them, and cover them likewise with paper, as before, and so lay row upon row with papers betwene them, untill the boxe bee sufficiently filled, and then closing it up send it whither you please, and they will take the least hurt, whereas if you should line the boxe either with hay or straw, the very skins are so tender that the straw would print into them and bruise them exceedingly, and to lay any other soft thing about them, as either wooll or bum-bast, is exceeding evill, because it heateth the Plumbes, and maketh them sweat, through which they both loose their colour and rot speedily. As touching the gathering of Plumbes when they are hard, and to ripen them afterward by laying them upon nettles, to which consenteth the most of our *London-Fruiters*, I am utterly against the opinion, because I both know nature to be the perfectest worker, *Misericordia*, and where there is a bridged off her power there ever to follow disorders and imperfections, as also that when such things are done, as it were through an over-hasty constraint, there cannot proceed any thing but abjectness, and a distastfull relish, from whence I thinke it comes to passe that in *London* a man shall very seldome taste a delicate or well relisht Plumbe, unless it bee from such as having fruit of their owne, make no commoditie thereof more then their owne pleasure, yet thus much I would perswade every one, that if they have more Plumbes ripe at once then they can use, or spend, that then after they are gathered, to spread them thinne upon Nettles or Vine-tree leaves, and it will preserve them sound and well coloured a long time together, but if your store be

Of gathering
hard Plumbes

Of keeping of
Plumbes.

so superabundant that in no reasonable time you can spend them, then what you do not preserve, or make Godiniake, or Marrow-lade of the rest you shall take and sprinkling them over with Sweet-wort, or grove, and then laying them one by one (yet so as they may be touch one another) upon hurdles or flukes made of wands or twiggies, and put them into an Oven after Bread or Pies have bene taken thereout, and so leisurely dry them; and they will not onely last; but last pleasantly all the years after: and in this sort you may use all kindes of Plumbees, or Peares, whatsoever. Now for the gathering of the other ordinary sorts of ungrafted Plumbees, which have both much stronger rindes, and are lesse subject to rotting, you shall gather them, carry, or transport them, in the same manner that you did your Cherries, onely in these, as in all other sorts of fruit whatsoever, you shall not onely never to gather, or pull them from the tree, till the dew bee dried cleane both from the grasse and from the trees, and that the day be dry, faire, and full of sunne-shine; for the least wet or moisture doth canker and rot the fruit.

As touching the gathering of Peares, though sundry Fruiterers observe sundry wayes in gathering them, as some making more haste then good-speed, as either to have the first taste, or the first profite, some using more negligence, thinking their store so great it will never bee consumed, and some so curious, that they will not gather till their Peares fall into their bosomes, at which are dispraisable fashions, yet I for my part would ever advise all diligent husbands to observe a mediocritie, and take the fittest season for the gathering of his fruit as thus for example. If because you are inexperienced or unacquainted with the fruit you doe not know the due time of his ripening, you shall observe the colour of the Pear, and if you see it doe alter, either in part, or in all, you shall bee assured the fruit is neere ripening, for Peares doe never change their colours, but when they doe desire to bee taken from the tree: and of all fruit the Pear may be gathered the hardest,

Of the gathering of Peares

because both his owne naturall heate and peculiar quality will ripen him best with lying: yet to be more strongly fortified in the knowledge of the ripeness of your fruit, and because it is better to get a day too late, then an houre too early, you shall before you gather your Peares, whether they bee Summer fruit or Winter fruit, or whether you meane to spend them soone or preserve them long, take one of them from the tree, which is neither the ripest nor the greenest, but betwixt both, and cut it through the midd with your knife, not long-wise, but over-thwart, and then looke into the coare where the kernels lye, and if it bee hollow so as the kernels lye as it were hollow therein, the neather ends thereof being turned either blacke, or blackish, albeit the complexion of the Peare be little, or not at all altered, yet the Peares have their full growth, and may very well be gathered: then laying them either upon a bed of ferne, or straw, one upon another, in great thicknesse, their owne naturall heate will in short space ripen them, which you shall perceive both by the speedy changing of their colour, and the strength of their smell, which will bee exceeding suffocating, which as soone as you perceive, you shall then spread them thinner and thinner, untill they be all ripe, and then lay them one by one, in such sort as they may not touch one another, and then they will last much the longer, you shall also after they bee ripe, neither suffer them to have straw nor ferne under them, but lay them either upon some smooth table, boards, or fleskes of wands, and they will last the longer.

Of transporting, or carrying of Peares farre.

If you bee to carry or transport Peares farre, you shall then gather them so much the sooner, and not suffer any ripe one to be amongst them, and then lining great wicker baskets (such as will hold at least quarters a pece) finely within with white straw, fill them up with Peares, and then cover them with straw, and corde them above, and you may either transport them by Land or Sea, whither you please, for they will ripen in their carriage: but when you come to your place of residence, then you must needs

needs unpacke them, and spread them thinner, or else they will rot and consume in a sodaine.

There be sundry wayes of gathering Peares, or other fruit, as namely, to climbe into the tree and to have a basket with a line fastned thereto, and so when it is filled, to let it downe, and cause it to be emptied, which labour though some of our Southerne Fruiters doe not much commend, yet for mine owne part I doe not see much error therein; but that it is both allowable and convenient, both because it neither bruise the fruit, nor putteth the gatherer to any extraordinarie labour, onely the imaginary evill is, that by climbing up into the tree, he that gathereth the fruit, may indanger the breaking, slipping, and disbranching of many of the young cyons, which breedeth much hurt and damage to the tree, but judgement, and care, which ought to be appropriate to men of this qualitie, is a certaine preventer of all such mischiefs. Now for such as in gathering of their fruit do every time that the basket is full, bring it downe themselves from the tree, and empty it by pouring the fruit rudly, and boysterously forth, or for beating of fruit downe with long poles, loggors, or such like, they are both most vilde and preposterous courses, the first being full of too much foolish and carelesse trouble, the latter of too much disorder and crueltie, ruining in a moment what hath bene many yeares in building: as for the climbing the tree with a ladder, albeit it be a very good way for the gathering of fruit, yet if it be never to little indiscreetly handled, it as much hazardeth the breaking and bruising both of the fruit and the small cyons, as either climbing the tree, or any other way whatsoever.

Of gathering diversly.

Now for the gathering of your Apples: you shall understand that your Summer fruit, as your Ieniking Wabourne, and such like, are first to be gathered, whose ripenesse, you may partly know by the change of colour, partly by the pecking of Birds, but chiefly by the course formerly described for your knowledge of the ripenesse of the Pear, which is the hollownesse of coare, and liberty of the kernel

The gathering of Apples.

only, and when you doe perceive they are ripe, you shall gather them in such wise as hath beene declared for the gathering of your Peares; without respecting the state of the Moone, or any such like observation, but when you come to gather your Winter fruit, which is the Pippin, Pearmaine, Russeting, Blacke-amor, and such like, you shall in any wise, gather them in the wane of the Moone, and, as before I said, in the dryest season that may be, and if it be so that your store be so great that you cannot gather all in that season, yet you shall get so much of your principall fruit, the youngest and fairest, as is possible to be gotten, and preserve it for the last which you intend either to spend, or utter. Now for the manner of gathering your Apples I doe not think you can amend or approve a better way then that which hath beene described for the gathering of Peares; yet some of our late practitioners (who thinke themselves not cunning if they be not carious) dislike that way, and will onely have a gathering apron, into which having gathered their fruit, they doe empty it into large vessels: this gathering apron is a strong peece of Canvass at least in all every way, which having the upper end made fast about a mans neck, & the neather end with three loopes, that is, one at each corner, & one at the midst, through which you shall put a string and binde it about your waste, in so much, that both the sides of your apron being open, you may put your fruit therein with which hand you please: this manner of gathering Apples is nor amisse; yet in my conceit, the apron is so small a defence for the Apples, that if it doe but knocke against the boughes as you doe move your selfe, it cannot choose but bruise the fruit very much, which pughe ever to be avoyded: therefore still I am of this opinion, there is no better way, safer, nor more easie, then gathering them into a small basket, with a long line thereat, as hath beene before declared in the gathering of Peares. Now you shall carefully observe in emptying one basket into another, that you doe it so gently as may be, least in powring them out too rudely the stalkes of

of the fruit doe pricke one another, which although it doe appeare little or nothing at the first, yet it is the first ground, cause, and beginning of rottenesse, and therefore you shall to your utermost power gather your Apples with as small stalkes as may be, so they have any at all, which they must needs have, because that as too bigge stalkes doe pricke and bruise the fruit, so to have none at all makes the fruit rot first in the place where the stalke should be: you shall also keepe you fruit cleane from leaves, for they being greene and full of moisture, when by reason of their lying close together, they beginne to wither, they strike such an heate into the Apples, that they mil-dew and rot instantly.

As touching your Fallings, which are those Apples which fall from your trees, either through too much ripeness, or else through the violence of winde, or tempests, you shall by no meanes match them, or mixe them with your gathered fruit, for they can by no meanes last or indure so long, for the latter which fall by force of wind, waiting the true nourishment of the earth, and the kindly ripening upon the tree, must necessarily shrink, wither, and grow rivelled, so that your best course is to spend them presently, with all speed possible: for the other which hath too much ripeness from the earth, and the tree, though it bee much better then the other, yet it cannot be long lasting, both because it is in the falling bruised, and also hath too much ripeness, which is the first steppe to rottenesse, so that they must likewise be spent with all expedition. For the carriage of your Apples, if the place be not farre, whether you should carry them, you shall then in those large baskets into which you last emptied them, carry them upon cole-staves, or stangs, betwixt two men, and having brought them carefully into your Apple-loft, powre them downe gently upon bedds of ferne or straw, and lay them in reasonable large heapes, every sort of Apples severall by themselves, without mixture, or any confusion: and for such Apples as you would have to ripen soone, you shall

Of Fallings,

Of carriage
and keeping
Fruit.

shall cover them all over with ferne also, but for such as you would have take all possible leasure in ripening, those you shall lay neither upon ferns, nor straw, but upon the bare boards; nay, if you lay them upon a plaster floore (which is of all floores the coldest) till *Saints Andrewes-tide*, it is not amisse, but very profitable, and the thinner you lay them so much the better. Now if you have any farre journey to carry your Apples, either by land, or by water, then trimming and lyning the insides of your baskets with ferns, or wheate-straw woven as it were cleane through the basket, you shall packe, cover, and cord up your Apples, in such sort as you did your Peares, and there is no danger in the transportation of them, be it by shippe, cart, waggon, or horse-backe. If you be inforced to packe sundry sort of Apples in one basket, see that betwixt every sort you lay a division of straw, or ferns, that when they are unpackt, you may lay them againe severally: but if when they are unpackt, for want of room you are compeld to lay some sorts together, in any wise observe to mixe those sorts together which are nearest of taste, likest of colour, and all of one continuance in lasting: as for the packing up of fruit in hogheads, or shooting them under hatches when you transport them by Sea, I like neither of the courses, for the first is too close, & nothing more then the want of ayre doth rot fruit, the other is subject to much wet, when the breach of every Sea endangereth the washing of the Apples, and nothing doth more certainly spoyle them. The times most unseasonable for the transporting of fruit, is either in the month of *March*, or generally in any frosty weather, for if the sharpe coldnesse of these ayres doe touch the fruit, it presently makes them looke blacke, and rivelled, so that there is no hope of their continuance.

The place where you shall lay your fruit must neither be too open, nor too close, yet rather close then open, it must by no means be low upon the ground, nor in any place of moistnesse: for moisture breedes fastinesse, and such
naughty

naughty, finells easily enter into the fruit, and taint the
relish thereof, yet if you have no other place but some low
cellar to lay your fruit in, then you shall raise shelves
round about the nearest nor, within two foot of the ground,
and lay your Apples thereupon, having them first tyed,
either with sweet Rye-straw, Wheat-straw, or dry fennel
as these undermost roomes are not the best, so are the up-
permost, if they be unseeld, the worst of all other, because
both the sunne, winde, and weather, piercing through the
tiles, doe stinck and hurt the fruit: the best roomes then
is a well seeld chamber, whose windowes may be shut and
made close at pleasure, even observing with straw to defend
the fruit from any mist stone wall, or dusty mud wall, both
which are dangerous annoyances.

Now for the separating of your fruit, you shall lay these
nearest hand, which are first to be spent, as those which
will last but till *March*, as the *Gisting*, *Whitcombe*, and
such like, by themselves: those which will last till *Christ-
masse*, as the *Costard*, *Pome-water*, *Queene-Apple*, and
such like, those which will last till *Christmas*, as the
Pome-de-roy, *Goose-Apple*, and such like, and those which
will last all the yeare, as the *Pippin*, *Dzing*, *Bussington*,
Peare-maine, and such like, every one in his severall place,
and in such order that you may passe from bed to bed to cull
or cast forth those which be rotten or putrified at your plea-
sure, which with all diligence you must doe, because those
which are tainted will soone poyson the other, and therefore
it is necessary as soone as you see any of them tainted, not
onely to cull them out, but also to looke upon all the rest,
and divide them into three parts, laying the soundest by
themselves, those which are least tainted by themselves,
and those which are most tainted by themselves, and so to
use them all to your best benefit.

Now for the turning of your longest lasting fruit, you
shall know that about the latter end of *December* is the
best time to beginne, if you have both got and kept them
in such sort as is before said, and not mixt fruit of more

The separating
of Fruit.

early ripening, amongst them: the second time you shall
turb them; shall be about the end of February; and so
consequently once every month till *Pancroft*, for as the
yeere time increaseth in heate, so fruit growes more apt to
fall: after *Whitsontide*, you shall stirre them once every
fortnight, alwayes in your turning, making your heapes
thinner and thinner; but if the weather be frosty; then
stirre not your fruit at all; neither when the thaw is, for
then the fruit being moist, may by no means be rouch'd:
also in wet weather fruit will be a little dankish, so that
then it must be ferbomeal (so) and therefore when any such
moisture happeneth, it is good to open your windowes
and let the ayre dry your fruit before it be turned: you may
open your windowe any time of the yeere in open wea-
ther; as long as the Sunne is upon the skye, but not after,
except in *March* onely, at what time the ayre and winde
be so strong that it bloweth and rivelleth all sorts of fruits
whatsoever.

gathered
in the

To keepe fruit
in frost.

but if the frost be very extreme, and you feare the endan-
gering your fruit, it is good to cover them some what thick
with fine hay, or else to lay them covered all over either in
Bastard chaff, or dry Salt: as for the laying them in
chests of *Juniper*, or *Cypress*, it is but a toy, and not worth
the practise: if you hang Apples in nettes within the ayre
of the fire it will keepe them long, but they will be dry and
withered, and will looke their best relish.

Of Wardens.

Now for the gathering, keeping, ordering, and preser-
ving of Wardens, they are in all sorts; and in all respects to
be used as you doe use your Peares, onely you are to con-
sider that they are a fruit of a much stronger constitution;
have a much thicker skinne, and will endure much harder
season: neither ought you to seeke to ripen them in haste;
or before the ordinary time of their owne nature, and there-
fore to them you shall use neither straw, fern, nor hay,
but onely dry boards to lay them upon, and no otherwise.

Of Medlars
and Services.

For your Medlars, you shall gather them about the
midst of *October*, after such time as the frost hath nip'd and

bitten

bitten them, for before they will not be ready, or loosen from the stalks, and then they will be nothing ripe, but as hard as stones; for they never ripen upon the tree, therefore as soone as you have gathered them, you shall packe them into some close vessell, and cover them all over, and round about, with thicke woollen cloathes, and about the cloathes good store of hay, & some other weight of boards, or such like upon them, all which must bring them into an extreame heate, without which they will never ripen kindly, because their ripenesse is indeed perfect rottennesse: and after they have layne thus, at least a fortnight, you shall then looke upon them, and turning them over, such as you find ripe you shall take away, the rest you shall let remaine still, for they will not ripen all at once; and those which are halfe ripe, you shall also remove into a chiefe place, least if you should keepe them together, they should beginne to grow mouldy before the other were ready: and in the selfe same manner as you use your Medlars, so you shall use your Services, and they will ripen most kindly, or if you please, to sticke them betwixt large cloathes sticke, and to sprinkle a little old beere upon them; and so set them in a close room, they will ripen as kindly as any other way whatsoever.

Now for Quinces, they are a fruit which by no means you may place neere any other kind of fruit, because their sent is so strong and piercing, that it will enter into any fruit, and cleane take away his naturall relish: the time of their gathering is even in *October*, and the meetest place to lay them in, is where they may have most ayre, so they may ly dry (for wet they can by no means indure) also they must not ly close, because the smell of them is both strong and unwholsome; the beds wheron they must ly must be of sweet straw, and you must both turne them and shift them very often, or else they will rot speedily: for the transporting or carrying them any long journey, you must use them in all things as you use your Peares, and the carrying will be safe.

For Nuts, of what sort soever they be, you shall know they

they are ripe as soon as they perceive them as a little browne
within the huske; or as it were ready to fall out of the
same; the skill therefore in preserving of them long from
dryinge, is all that can be desired at the Fruiterers hands:
for as touching the gathering of them, there is no scruple
to be observed, more then to gather them cleane from the
tree, with the tips of knives and such like; for as touching
the brininge of them, the skill is sufficient. After
they be gathered, you first wate them, and take them
cleane out of their huskes, and then for preserving them
from murthered wormes, to the use, it shall bee good to lay
them in some low collagrie where you may cover them with
sand, taking first put into great bagges or bidders: some
Fruiters are of opinion, that if you put them into ves-
sels made of Walnut trees, and mixe say berries amongst
them, you will preserve the most a long time: others
thinke, that I have found it uncertaine, that to preserve
Nuts in Holts, will keepe them in the same yeere as preser-
vinge, and pining, as when they hang upon the tree. The
Dutchman use, and it is an excellent practice, to take the
coarse Crabbes, after your wish they are strained out of
them, and to mixe it with their Nuts, and so to lay them
in heapes, and it will preserve them long, or otherwise
if they be too hard, to put them into Barrells and to
lay one layre of such Crabbes, and another of Nuts, un-
till the Barrell be filled, and then to close them up, and set
them where they may stand coole. But above all these fore-
said experiments, the best way for the preserving of Nuts
is to put them in cleane earthen pots, and to mixe with
them good stee of salt, and then closing the pots close, to
set them in some coole cellar, and cover them all over with
sand, and decrease doubt but they will keepe coole, plea-
sant and moist, untill new come againe, which is a time
fully convenient.

Of Grapes.

It doth not conclude, for the keeping of Grapes, you must
first understand that the best time for their gathering is
in the wine of the Moone, and about the midst of October,
yeat

as for the knowledge of his ripeness it is ever at such time as his first colour is cleane altered, for all Grapes before they bee ripe, are of a deepe thicke greene colour, but after they bee ripe, they are either of a bluish red, or of a bright shining pale greene. Now for the preserving them for our English use, which is but onely for a fruit-dish at our Tables, for neither our store, nor our soyle, affords us any for the wine-presse, some thinke it good, after they are gotten, to lay them in fine dry sand, or to glasse them up in close glasses where the ayre cannot peirce, will keepe them long, both full, plump, and sweet, but in my conceit the best course is after they are gotten, to hang them upon strings bunch by bunch, in such places of your house as they may take the ayre of the fire, and they will last longest, and keepe the sweetest.

CHAP. X.

Of the making of Cyder, or Perry.



Cyder is a certaine liquor or drinke made of the iuyce of Apples, and Perry the like made of Peares, they are of great use in France, and very wholesome for mans body, especially at the Sea, and in hot Countreies: for they are coole and purgative, and doe prevent burning agues: with us here in England Cyder is most made in the West parts, as about Devon-shire and Cornwaile, and Perry in Worcesters-shire, Glosters-shire, and such like, where indeed the greatest store of those kinds of fruits are to bee found: the manner of making them is, after your fruit is gotten, you shall take every Apple, or Pear, by it selfe, and looking upon them, picke them cleane from all manner of filthinesse, as biusings, rottennesse, worme-eating, and such like, neither leave upon them any stalkes, or the blacke buds which are and grow upon the tops of the fruit, which done you shall put them into some

very cleane vessell, or trough, and with beerels, made for the purpose, bruisse or crush the Apples or Peares in peeces, and so remove them into other cleane vessels, till all the fruit be bruised: then take a bagge of haire-cloth, made at least a yard, or three quarters, square, and filling it full of the crushed fruit, put it in a presse of wood, made for the purpose, and presse out all the juyce and moisture out of the fruit, turning and tossing the bagge up and downe, untill there be no more moisture to runne forth, and so bag full after bag full, cease not untill you have prest all: wherein you are especially to observe, that your vessels into which you straine your fruit be exceeding neate, sweet, and cleane, and there be no place of ill savour, or annoyanceneare them, for the liquor is most apt, especially Cyder, to take any infection. As soone as your liquor is prest forth, and hath stood to settle, about twelve houres, you shall then turne it up into sweet hogheads, as those which have had in them last, either White-wine or Clarret, as for the Sacke vessell it is tollerable, but not excellent: you may also if you please make a small long bagge of fine linnen cloth, and filling it full of the powder of Cloves, Mace, Cynamon, Ginger, and the dry pills of Lemons, and hang it with a string at the bung-hole into the vessell, and it will make either the Cyder or Perry, to taste as pleasantly as if it were Rhenish wine, and this being done you shall clay up the bung-hole with clay and salt mixt together, so close as is possible. And thus much for the making of Perry or Cyder.

CHAP.

CHAP. XI.

Of the Hoppe-garden, and first of the ground

and situation thereof.



That the Hop is of great use and commoditie in this kingdome, both the Beare, which is the generall and perfect drinke of our nation, and our daily trafficke, both with France, the Low-countries, and other nations, for this commoditie, is a continuall testimonie; wherefore the first thing to be considered of in this worke, is the goodnesse and aptnesse of the ground for the bringing forth of the fruit thereof, wherein I thus farre consent with Master *Scor*, that I doe not so much respect the writings, opinions, and demonstrations, of the Greeke, Latine, or French Authors, who never were acquainted with our soyles; as I doe the daily practice and experience which I collect, both from my owne knowledge, and the labors of others my Countrey-men; best scene and approved in this Art: therefore to come to my purpose, you shall understand that the light sand, whether it be red or white, being simple and unmixed is most unfit for the planting of Hops, because that through the barrennesse, it neither hath comfort for the roote, nor through his separate lightnesse, any strong hold to maintaine and keepe up the poles: likewise the most fertill rich, blacke clay, which of all soyles is the best and most fruitefull is not to be allowed for a Hoppe-garden, because his fatnesse and juyce is so strong that the roote being as it were over-fed; doth make the branches bring forth leaves in such infinite abundance, that they leave neither strength nor place for the fruit, either to knit, or put forth his treasure, as I have scene by experience in many places: as for the earth which is of a morish blacke wet nature, and lieth low, although I have often times scene good Hoppes to grow thereupon, being well trencht, and the hills

Fit ground
for Hops.

hills cast high to the best advantage, yet it is not the principall ground of all others, because it is never long lasting, but apt to decay and grow past his strength of bearing. The grounds then which I have generally seene to beare the best Hoppes, and whose natures doe the longest continue with such fruit, are those mixt earthes which are clayes with clayes, as blacke with white, or clayes and sands of any sorts, wherein the soyle is so corrected as neither too much fatnesse doth suffocate, nor too much leanesse doth pine: for I had ever rather have my Hoppe-garden desire increase, then continually labour in abatement. And although some doe exceedingly condemne the chalk-ground for this use, yet I have not at any time seene better Hoppes, or in more plenty, then in such places, as at this day may bee seene in many places about *Hartford-shire*. To conclude, though your best mixt earthes bring forth the best Hoppes, yet there is no soyle, or earth, of what nature soever it be (if it lye free from inundation) but will bring forth good Hoppes, if it be put into the hands of an experienced workeman.

Of the situation.

Now, for the situation or site of your Hoppe-garden: you shall so neere as you can place it neare some cover or shelter, as either of hills, houses, high-walles, woods or trees; so those woods or trees bee not so neare that they may drop upon your Hoppe hills, for that will kill them; also the neerer it is planted to your dwelling house it is so much the beter; both because the vigilance of your owne eye is a good guard thereunto, and also the labours of your worke-Master will bee more carefull and diligent. A Hoppe-garden as it delighteth much in the pleasantnesse of the sunne, so it cannot indure by any meanes, the sharpenesse of the windes, frosts, or Winter weather, and therefore your onely care is your defence and shelter. For the bignesse of your ground, it must be ordered according to your abilitie or place of trade for that commoditie; for if you shall have them but for your owne use, then a roode or two roodes will bee enough, albeit your house keeping match with

with Nobilitie: but if you have them for a more particular profit, then you may take an Aker, two or three, according to your owne discretion; wherein you shall ever keepe these observations: that one mans labour cannot attend above two thousand five hundred hils, that every roode will beare two hundred and fiftie hils, every hill beare at least two pounds and an halfe of Hops (which is the just quantity that will serve to brew one quarter of Malt) and that every hundred waight of Hops, is at the least, in a reasonable yeare, worth foure nobles the hundred: so that every roode of ground thus employed, cannot be lesse worth, at the meanest reckoning, then sixe pounds by the yeare: for if the ground be principall good for the purpose, and well ordered, the profite will bee much greater, in as much as the bells of the Hops will be much greater, full, and more waightry: And thus much for the ground and situation.

CHAP. XII.

Of the ordering of the Garden, and placing of the Hills.



Soone as you have chosen out your plot of ground, you shall either by ploughing or digging, or by both, make it as flat and leuell as is possible, unless it bee any thing subject unto water, and then you shall give it some small descent, and with little trenches convey the water from annoyng it: you shall also the yeare before you either make, hill or plant it with Hopp-roots, sowe it all over with hempe, which will not onely kill, and stiffe all sorts of weeds, but also rot the greenswarth, and make the mould mellow, and apt to receive the roots when they come to be planted.

Now, as soone as your ground is thus prepared, you shall then take a line, and with it measure your ground overthwart, and to every hill allow at least three fote of ground every way, and betwixt hill and hill, at the least sixe fote distance: and when you have marked thus the number of thirty or forty places, where your hills shall be placed

planted, depending on shade the same 12 years after this you're
 might be done in the same manner, especially you shall then in the
 winter digge in the part of the earth made for the site of your
 tree, digge small square holes of a foote square each way, and
 a foot or deeper, and in the holes you shall set your Hop
 roots, that is to say, with every hole at least three rootes, and
 three or three to five, you shall joine together in such wise that
 the top of them may be of one equall height, and agreeing
 with the face or upper part of the earth, you shall set them
 straight and upright, and not separating them, as many doe,
 and setting at each corner of the hole a roote, neither shall
 you set in them, and setting them upward, nor lay them flat
 or crone wise in the earth, neither shall you make the hills
 first and set the roots after, nor immediately upon the setting
 cut great hillocks on them, all which are very wild wayes for
 the setting of Hops, but before you have joyned your
 rootes together, you shall place them straight and upright,
 and so holding them in one hand, with the other put the
 moulds close, firme, and perfectly about them, especially to
 each corner of the hole, which done you shall likewise cover
 the roots with a newe and sover with the moulds, and so
 shall you have all your Hops planted, and you shall have all your
 plants over, making the lines for your hill to stand in rows
 and ranges, in such order that you may have every way be-
 come the hill small lines and passages, wherein you may
 seeke pleasure from any time without any trouble or an-
 noyance, according to the forme which I have before pre-
 scribed touching the placing of your Apple trees in each re-
 corner quarter in your Orchard: and herein you are to under-
 stand that in this first year of planting your Hop garden,
 you shall by no meanes fatten or make any great hills, but
 only that part of the earth where your plants are set,
 to be a foot or three fingers higher then the ordinary ground.
 Now before I proceed any further, I thinke it not amisse
 to speake something touching the choise, gathering and
 cutting of Hop rootes, wherefore you shall understand,
 that about the later end of March is the best gathering of
 Hops.

The choise of
 Rootes.

Hop-roots, which so neere as you can you shall select out of some garden of good reputation, which is both carefully kept, and by a man of good knowledge: for those every thing being preserved in his life & perfection, the roots will be the greatest and most apt to take & in the choice of your roots you shall ever chuse those which are the greatest, & are namely such as are at the least 2. or 4. inches about, and ten inches long: let every root containe about 2. joints, and no more, and in any case let them be the cybines of the last yeares growth: if they be perfectly good they have a great greene stalk with red streakes, and a hard broad long green bell; if they be otherwise, & namely wild Hops, then they are small and slender, like threads, their colour is all red, even when it is at least three yards high, whereas the bell Hop can with his reddish colour not three footes from the earth. When you have gotten such roots as are good, and sufficient for purpose, if the season of the weather, or other necessity binde you from presently setting them, you shall then either lay them in some puddle, near to your garden, or else bury them in the ground untill such time for their planting, and of the two it is better to bury them, then lay them in puddles, because it will let them lie above 24. houres, the roots will be decayed.

Now alter you have in manner asforesawed, planted your garden with rootes, it shall not be amiss, if the place be apt to such annoyance, to pricke up in the fence every hill a few sharpe thornes, to defend them from the scratching of poultry, or such like, which are carelesse to doe mischief: yet of all house-foes Geese be the worst, but if your fence be as it ought, high, strong, and close, it will both prevent their harm, and this I have said.

Next unto this worke, is the placing of Bees: of which wee will first speake of the steele thereof. I will not dissent from the opinion of other men, yet imagine it to downe no Oracle, but referre you to the experience of the practice, and so make your owne discretion in chusing and placing our diffusions. It is the opinion of some, that the best bees are most proper and fit for the Hoppe garden, and

work that the Hop taketh as they fly, a certaine naturall love
 to that wood, as ife that the roughnesse of the rind is a stay
 and benefit to the growth of the Hop: to all which I doe
 not disagree; but that there should be found Alder-poles of
 that length, as namely, 100. or 120. foor long, nine or ten in-
 ches in compass, and with all this growne, straight, and fit
 for this use, seemeth to me as much as a miracle, because in
 my life I have not beheld the like, neither doe I thinke our
 hande can afford it: unless in some such especiall place
 where they are purposely kept & maintained, more to the
 end of this advantage, then the excellencie of their
 nature: In this one benefit, and doubtlesse where they are so
 preserved, the cost of their preservation amounteth to more
 then the goodnesse of their extraordinary qualitie, which
 gaineth much more to the contrary, giving them a larger
 price, in that they are cheaper to the purse, more pro-
 fitable to the plant, and lesse consumption to the common-
 wealth: but I greatly doubt in the approbation, and there-
 fore mine advice is not to relye only upon the Alder, and for
 his proponents sake, imagine of other Poles insufficient: but
 be assured that either the Oak pole, the Ash, the Beech, the
 Aspe, or the Maple, are every way as good, as profitable, and
 by many degrees much longer lasting.

Now, it is bee so that you happen to live in the champi-
 an Country, as for the most part Northamptonshire,
 Oxfordshire, some parts of Essex, and Rutland are
 so in the water and low countries, in Holland, and Kent
 in Leinster, &c. or the Ile of Ely in Cambridge shire,
 all which places are very barren of wood, and yet excellent
 soyles to beare Hoppes, rather then to have the continu-
 ance of the Hoppe garden: I will you to plant great
 store of Willowes, which will afford you poles as full
 and strong as the other whatsoever, onely they are not so
 long lasting, and yet with careful and dry keeping, I have
 some them last full six seven yeares, a time reasonably
 sufficient for the growing wood, for such use. Thus you
 see the necessity is not very great of what wood soever
 you

your poale bee, so it bee of young and cleane growth, rush-growne, (that is to say, biggest at the neather end) 18 foot in length, and 10 inches in compassse. These poales you shall cut and prepare betwixt the feast of *All-saints* and *Christ-masse*, and so pile them up in some dry place where they may take no wet, untill it be mid *April*, at which time (your hops being shot out of the ground at least three quarters of a yard, so that you may discern the principall cyons which issue from the principall rootes) you shall then bring your poales into the garden, and lay them along in the alleyes, by every hill so many poales as shall be sufficient for the maine branches, which haply the first yeare will not be above two or three poales at the most to a hill, but in processe of time more, as foure or five according to the prosperitie of the plants, and the largeness of the hills. After you have thus laid your poales, you shall then beginne to set them up in this sort: first, you shall take a gave-locke, or crow of yron, and strike it into the earth so neare unto the roote of the Hoppe as is possible, provided alwayes that you doe not bruise, or touch the roote; and so strike after stroke, cease not striking till you have made a hole at least two foote deepe, and make them a little slantwise inward towards the hill, that the poales in their standing may shoote outwards, and hold their greatest distance in the toopes: this done, you shall place the poales in those holes, thus made with the yron crow, and with another piece of wood, made rammer-wise, that is to say, as bigge at the neather end as the biggest part of the poale, or somewhat more, you shall ramme in the poales, and beate the earth firme and hard about them: alwayes provided, that you touch not any branch, or as little as you may, beate with your rammer within betweene the poales, only on the out-side make them so fast, that the winde, or weather, may not disorder or blow them downe: then lay to the bottome of every poale, the branch that shall ascend it, and you shall see in a short space, how out of their owne nature, they will embrace and cleave about them.

The proporti-
one of the
Poale.

Of cutting
and erecting
Poales.

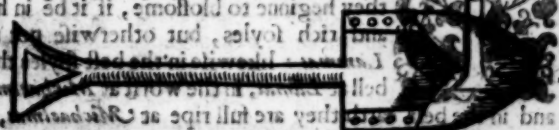
Now, if it happen after your Hops are growne up, yet not come to their full perfection, that any of your poales chance to break, you shall then take a new poale, and with some soft Greene rushes, or the inmost Greene barke of an Alder-tree, tye the top of the Hop to the the top of the new poale, then draw the broken poale out of the Hop; (I meane that part which being broken lyeth upon the ground) and as you saw it did wind about the old poale (which is ever the same way that the Sun runs) so you shall wind it about the new poale: then loosening the earth a litle from the neather part of the broken poale, you may with your own strength pull it cleane out of the earth, and place the new poale in his roome. Now, ther be some which are exceeding curious in pulling up these old poales, and rather then they will shake the earth, or loosen the mould, they will make a paire of large pincers, or tarrriers of yron, at least five foot long, with sharpe teeth, and a clasping hooke to hold the teeth together, when they have taken fast hold upon the poale so neere the earth as is possible, and then laying a piece of wood under the tarrriers, and poying downe the other ends, to rest the poale out of the earth without any disturbance, the modell or fashion of which instrument is contained in this figure.



This instrument is not to be discomended, but to be hold of good use, either in binding grounds where the earth hardneth and holdeth the poale more than fast, or in the strength and

and heat of Summer, when the dryness of the mould will by no means suffer the poles to stay from it that otherwise it is needlesse and may without danger be omitted as soon as you have sufficiently set every hill with poles, and that there is no disorder in your worke, you shall when the Hops begin to climbe, note if there be any gyons or branches which doe forsake the poles, and rather shoot alongst the ground, then looke up to their supporters, and all such as you shall so find, you shall as before I sayd, either with soft green rushes, or the green barkes of Elder, tie them gently untie the poles, & wind them about, in the same course that the sap goes, as it is conveniently you binde that you shall discover as the dew is gone from the ground, and not before, and this must be done with all possible speed, for that rope which is the longest before it take unto the pole is every way best, and will bring forth his fruit in the worst season. Now as touching the making of your hills, you shall understand that although generally they are now made the first year, yet it is not amiss if you omit that scruple, and begin to make your hills as soon as you have placed your poles, soe if your hill may be as variable to the defect of the labor, you shall reap a good profit the first year, or either the second or the third. To begin therefore to make your hills, you shall make you an instrument like a stubbing Hoe, which is a tooles wher with laborers stub roots out of decay'd woodland grounds, only this shall be somewhat broader and thinner, somewhat in fashion (though twice so big) unto a Coopers Adze, with a shaft at least 4 foot long: some only for this purpose use a fine paring Spade, which is every way as good, and as profitable, the fashion of which is in this figure

Of the Hills.



With this paring Spade, or Hoe, you shall pare up the green sward and uppermost earth, which is in the alleys

leyes between the hils, and lay it into the roots of the Hops, raising them up like small Mole-hils, and so monthly increasing them, all the yeare through, make them as large as the site of your ground will suffer, which is at least foure or five foote overthwart in the bottome, and so high as conveniently that height will carry: you shall not by any meanes this first yeare decay any cyons or branches which spring from the hils, but maintaine them in their growth, and suffer them to climbe up the poales, but after the first yeere is expired you shall not suffer above two or three cyons at the most, to rise upon one poale: After your hils are made, which as before I sayd would be at least foure or five foote square in the bottome, and three foote high, you shall then diligently every day attend your garden, and if you finde any branches that being risen more then halfe way up the poales, doe then forsake them and spread outward, dangling down, then you shall either with the helpe of a high steele, on which standing, you may reach the top of the poale, or else with a small forcked sticke, put up the branch, and wind it about the poale: you shall also be carefull that no weeds or other filthinesse grow about the roots of your Hops to chooke them, but upon the first discovery to destroy them.

CHAP. XIII.

Of the gathering of Hoppes, and the preserving of the Poales.



Touching the gathering of Hops you shall understand that after Saint *Margarets* day they beginne to blossome, if it be in hot and rich soyles, but otherwise not till *Lanmas*: likewise in the best soyles they beell at *Lanmas*, in the worst at *Michaelmas*, and in the best earth they are full ripe at *Michaelmas*, in the worst at *Michaelmas*; but to know when they are ripe indeede, you shall perceive the seed to loose his greene colour

colour, and looke as browne as a Hares backe, wherefore then you shall with all diligence gather them, and because they are a fruit that will endure little or no delay, as being ready to fall as soone as they be ripe, and because the exchange of weather may breed change in your work, you shall upon the first advantage of faire weather, even so soone as you shall see the dew exhaled and drawne from the earth, get all the ayd of men, women and children which have any understanding, to help you, and then having some convenient empty barne, or shedde, made either of boards or Canvass, neare to the garden, in which you shall pull your Hoppes, you shall then beginne at the nearest part of the garden, and with a sharpe garden knife cut the stalkes of the Hoppes under close by the toppes of the hills; and then with a strait forke of yron, made brodd and sharpe, for the purpose, shove up all the Hoppes, and leave the poales naked. Then having labouring persons for the purpose, let them carry them unto the place where they are to be piled; and in any case cut no more then presently is carryed away as fast as they are cut, lest if a shewer of raine should happen to fall, and those being cut and taking wet, are in danger of spoiling. You shall provide that those which pull your Hoppe be persons of good discretion, who must not pull them one by one, but stripe them roundly through their hands into baskets, mixing the young buddees and small leaves with them, which are as good as any part of the Hoppe whatsoever. After you have pulled all your Hoppes and carried them into such convenient dry roomes as you have prepared for that purpose, you shall then spread them upon cleane stobres, so thinne as may be, that the ayre may passe thorow them, lest lying in heapes they sweate, and so mould, before you can have leasure to dry them. After your Hoppes are thus ordered, you shall then cleanse your garden of all such Hoppe-straw, and other trash, as in the gathering was scattered therein: then shall you plucke up all your Hoppe-poales, in manner before shewed, and having either some dry boarded house, or shed, made for the

purpose, pile them one upon another, safe from winde or weather, which howsoever some that would have their experience, like a Collofus, seems greater then it is, doe disallow, yet it is the best manner of keeping of poales, and well worthy the charge; but for want of such a house, it shall not be amisse to take first your Hoppe-straw, and lay it a good thickness upon the ground, and with fixe strong stakes, driven slantwise into the earth, so as the uppermost ends may be inward one to another, lay then your Hoppe-poales betweene the stakes, and pile them one upon another, drawing them narrower and narrower to the top, and then cover them all over with more Hoppe-straw, and so let them rest till the next March, at which time you shall have new occasion to use them.

Winter busi-
ness.


As soon as you have piled up your Hoppe-poales, dry and close, then you shall about mid November following throw downe your hills, and lay all your rootes bare, that the sharpness of the season may nip them, and keepe them from bringing too early, you shall also then bring into the garden old Cow-dung, which is at least two yeares old, for no new dung is good, and this you shall lay in some great heape, in some convenient place of the garden untill April, at which time, after you have spotted your Hoppes about your poales, you shall then bestow upon every hille two or three Spades full of the Manure mixt with earth, which will comfort the plant and make it spring pleasantly.

After your hills are pild downe, you shall with your garden Spade, or your Hoe, undermine all the earth round about the roote of the Hoppe, till you come to the principall rootes thereof, and then taking the youngest rootes in your hand, and shaking away the earth, you shall see how the new rootes grow from the old sets, then with a sharpe knife cut away all those rootes as did spring the yeare before, out of your sets, within an inch and a halfe of the same, but every yeare after the first you shall cut them close by the old rootes. Now, if you see any rootes which doe grow

grow straight downeward, without joynts, those you shall not cut at all, for they are great nourishers of the plant, but if they grow outward or side-ways, they are of contrary nature, and must necessarily bee cut away. If any of your Hoppers turne wilde, as oft it happens, which you shall know by the perfect rednesse of the branch, then you shall cut it quite up, and plant a new roote in his place. After you have cut and trimmed all your rootes, then you shall cover them againe, in such sort as you were taught at the first planting them, and so let them abide till their due time for poaling.

CHAP. XIII.

Of drying, and not drying of Hoppers, and of packing them in winter they are dried.

 Although there bee much curiosities in the drying of Hopper as well in the temperature of heate (which having any extremitie, as either of heate, or his contrary, breedeth disorder in the worke) as also in the framing of the oft or furnace after many new moulds and fashions, as variable as mens wits and experiences, yet because innovations and incertaintie doe rather perplexe then profite, I will shunne, as much as in mee lyeth, from loading the memory of the studious Husbandman with those Stratagems which disable his understanding from the attaining of better perfection, not disallowing any mans approved knowledge, or thinking, that because such a man can mend smoaking Chimnyes, therefore none but hee shall have license to make Chimnyes, or that because some men can melt Mettall without winde, therefore it shall be utterly unlawfull to use bel-lowses: these violent opinions I altogether disallow, and wish every one the liberty of his owne thoughts, and for my English Husband, I will shew him that way

to dry his Hops which is most fit for his profit, safe, easie, and without extraordinary expences,

First, then to speake of the time, which is fittest for the drying of your Hoppes, it is immediately as soone as they are gotten, if more urgent occasions doe not delay the businesse, which if they happen, then you have a forme before prescribed how to preserve them from mouldiness and putrefaction till you can compass fit time to effect the work in. The manner of drying them is upon a Kilne, of which there be two sorts, that is to say, an English Kilne, and a French Kilne: the English Kilne being composed of wood, lath, and clay, and therefore subject to some danger of fire, the French, of bricke, lime, and sand, and therefore safe, close, and without all perill, and to be preferred much before the other: yet because I have hereafter more occasion to speake of the nature, fashion, and edifice of Kilnes in that part of this Volume where I intreate of Malting, I will cease further to mention them, then to say that upon a Kilne is the best drying your Hoppes, after this manner, having finely bedded your Kilne with Wheat straw, you shall lay on your hayre cloath, although some disagree, but give no reason therefore, yet it cannot bee hurtfull in any degree, for it neither dusteth the Hoppes, nor defendeth them from the fire, making the works longer then it would, but it preserveth both the Hoppes from filthinesse, and their seede from losse: when your hayre cloath is spread, you shall cause one to deliver you up your Hoppes in baskets, which you shall spread upon the cloath, all over the Kilne, at the least eight inches thicke, and then coming downe, and going to the hole of the Kilne, you shall with a little dry straw kinde the fire, and then maintaining it with more straw, you shall keepe a fire a little more fervent then for the drying of a kilne full of Malt, being assured that the same quantitie of fuell, heate, and time, which dryeth a kilne full of Malt, will also dry a kilne full of Hoppes, and if your Kilne will dry twenty strikes, or bushells of Malt at one drying, then it will dry forty of Hops,

Hoppes, because being laid much thicker the quantitie can be no lesse then doubled, which is a speed all together sufficient, and may very well serve to dry more Hops then any one man hath growing in this kingdome.

Now, for as much as some men doe not allow to dry Hoppes with straw, but rather preferre wood, and of wood still to chuse the greenest, yet I am of a contrary opinion, for I know by experience that the smoke which proceedeth from wood (especially if it bee Greene wood) being a strong and sharpe vapour, doth so taint and infect the Hoppes, that when those Hoppes come to be brewed with, they give the drinke a smokie taste, even as if the Malt it selfe had beeing wood dried; the unpalatableness whereof I leave to the judgement of them that have travelled in *Yorkshire*, where for the most part, is nothing but wood dried Malt.

That you may know when your Hoppes are dry enough, you shall take a small long stick, and stirring the Hops too and fro with it, if the Hoppes doe rattle, and make a light noise, as if it were separating one from another, then they are sooner dry enough, but if in any part you find them heave or glew one to another, then they have not enough of the fire: also when they are sufficiently and moderately dried they are of a bright-browne colour, little or nothing altered from that they held when they were upon the stalke, but if they be over dried, then their colour will be red: and if they were not well ordered before they were dried, but suffered either to take wet or mould, then they will looke blaek when they are dry.

There be some which are of opinion, that if you doe not dry your hoppes at all, it shall be no losse, but is an error most grosse, for if they be not dried, there is neither profit in their use, nor safety in preserving them.

As soone as your hoppes are sufficiently dried, you shall by the plucking up of the four corners of the cloth, doe thrust all your hoppes together, and then putting them into baskets, carry them into such dry places as you

Of the drying
Hoppes.

have prepared of purpose to lay them in, as namely, either in dry-fats, or in garner, made either of plaster, or boards: and herein you shall observe to packe them close and hard together, which will be a meanes that if any of them bee not dry, yet the heate they shall get by such lying will dry them fully and make them fit for service.

Of packing
Hoppes.

Now to conclude, if your store of Hoppes bee so great that you shall trade or make Merchandize of them, then either to convey them by land or Sea, it is best that you packe them into great bagges of canvas, made in fashion of those bagges which wooll-men use, and call them pockets, but not being altogether so large: these bags you shall open, and either hang up betweene some crosse beames, or else let down into some lower floore, and then putting in your Hopps cause a man to goe into the bagge and tread downe the Hopps, so hard as is possible, pressing downe basket-full after basket-full, till the bagge bee filled, even unto the top, and then with an extraordinary packe-stick, trowing the open end of the bag close together, let every hollow place bee crammed with Hopps, whill you can get one hand full to goe in, and so having made every corner strong and full, let them lye dry till you have occasion either to ship or cart them. And thus much for the ordering of Hoppes and their uses.

CHAP. XV.

The office of the Gardiner, and first of the Earbs, Situation, and fencing of a Garden for pleasure.



Here is to be required at the hands of every perfect Gardiner three especiall vertues, that is to say, *Diligence*, *Industry*, and *Art*: the two first, as namely, *Diligence* (under which word I comprehend his love, care, and delight in the vntue hee professeth) and *Industry* (under which word I conclude his labour, paine, and study, which are the onely testimonies

of

of his perfection) he must reape from Nature: for, if he be not inclined, even from the strength of his blood to this love and labour, it is impossible he should ever prove an absolute Gardiner: the latter, which consisteth in his skill, habit, and understanding in what he professeth, I doubt not but he shall gather from the abstracts or rules which shall follow hereafter in this Treatise, so that where nature, and this worke shall concur in one subject, there is no doubt to be made, but the professor shall in all points, bee able to discharge a sufficient durie.

Now, for as much as all our ancient and foraine writers (for wee are very sleightly beholding to our selves for these endeavours) are exceeding curious in the choice of earth, and situation of the plot of ground which is in use for the garden: yet I, that am all English Husbandman, and know our soyles out of the worthinesse of their owne natures, doe as it were rebell against foraine imitation, thinking their owne vertues are able to propound their owne rules: and the rather when I call into my remembrance, that in all the foraine places I have seene, there is none more worthy then our owne, and yet none ordered like our owne, I cannot be induced to follow the rules of *Italy*, unless I were in *Italy*, neither those of *France*, unless I dwell in *France*, nor those of *Germany*, except in *Germany*: I had my habitation, knowing that the too much heats of the one, or the too much coldnesse of the other, must rather confound then helpe in our temperate climate: whence it comes, that our English booke-knowledge in these cases is both disgraced and condemned; every one saying in his ex-
 periment, because he is guided by no home bred, but a stranger, as if to read the English tongue there were none better then an Italian Pedant: This I would, I will neither heere sayle on authority from strangers, but reverence the sayd worthies and fathers of their owne Country.

In speake therefore, first of the ground which is fittest for the garden, albeit the best is best worthy of the labour, and the profit most certaine, yet it is not meete that you

Of the
ground.

refuse

refuse any earth whatsoever; both because a garden is so profitable, necessary, and such an Ornament and grace to every house and house-keeper; that the dwelling place is lame and maimed if it want that goodly limbe, and beauty. Besides; if no gardens should bee planted but in the best and richest soyles; it were infinite the losse wee should sustaine in our private profit; and in the due commendation; fit for many worthy workemen, who have reduced the worst and barrenest earthes to as rare perfection and profit as if they had bene the onely soyles of this kingdome: and for mine owne part, I doe not wonder either at the worke of Art, or Nature, when I behold in a goodly, rich and fertile soyle, a Garden adorned with all the delights and delicacies which are wish in mine understanding; because the naturall goodness of the earth (which not enduring to bee idle) will bring forth whatsoever is cast into her: but when I behold upon a barren, dry, and dejected earth, such as the Peake-hill, where a man may behold snow all Summer, or on the East-moor, whose best hearbage is nothing but mofe, and iron-stone, in such a place; I say, to behold a delicate, rich, and fruitfull Garden; it shewes great worthinesse in the owner, and infinite art and industry in the workeman, and makes mee both admire and love the begetter of such excellencies.

But to returne to my purpose touching the choise of your earth for a Garden, such no house can conveniently bee without one; and that our English Nation is of this great popularity; that not the worst place thereof but is abundantly inhabited, I thinke it meete that you refuse no earth whatsoever to plant your Garden upon, ever observing this rule; that the more barren it is; the more cost must be bestowed upon it, both in manuring, digging, and in trenching, as shall bee shewed hereafter; and the more rich it is, less cost of such labour, and more curiosity in weeding, pruning, and trimming the earth: for, as the first is too slow, so the latter is too swifly both in her increase and multiplication.

Now

Now, for the knowledge of Soyles, which is good, and which is bad; I have spoken sufficiently already in that part, which intreateth of Tillage; onely this one caveat I will give you, as soone as you have marked out your garden-plot, you shall turne up a sod; and taking some part of the fresh mould, champe it betwene your teeth in your mouth, and if it taste sweetish then is the mould excellent good and fit to receive either seeds or plants; without much manuring, but if it taste salt or bitter, then it is a great signe of barrennesse, and must of necessitie be corrected with Manure: for saltnesse groweth much windinesse, which choaketh and killeth the feede, and bitterness that unnaturall heat which blasseth it before it sprout.

Now, for the situation of the Garden-plot for pleasure, you shall understand that it must ever bee placed so neere unto the dwelling house as is possible, both because the eye of the owner may bee a guard and support from inconveniences, as also that the speciall roomes and prospect of the house may bee adorned, perfumed, and enriched, with the delicate proportions, odoriferous smells, and wholesome ayres which shall ascend and vapoize from the same; as may more amply bee seene in that former Chapter, where modelling forth the Husbandmans house, I shew you the site and place for his Garden, onely you must diligently observe that neare unto this Garden doe not stand any hovells, stackes of hay, or Come; which over-peering the walls or fence of the same, may by reason of winds, or other occasiō, annoy the same with straw, chaffe, seeds, or such like filthinesse, which doth not only blemish the beauty thereof, but is also naturally very hurtfull and cankerous, to all plants whatsoever. Within this Garden-plot would bee also either some Well, Pumpe, Conduite, Pond, or Cesseme for water, such a Garden, at many times of the yeare, requireth much watering: and this place for water you shall order and dispose according to your ability, and the nature of the soyle, as thus: If both your reputation, and your wealth bee of the lowest account, if ever your garden

Of the situation.

afford you a plaine Well, comely covered, or a plaine Pumpe, it shall be sufficient, or if for want of such springs you digge a faire Pond in some convenient part thereof, or else (which is much better) erect a Cisterne of leade, into which by pipes may descend all the raine-water which falls about any part of the house, it will serve for your purpose: but if God have bestowed upon you a greater measure of his blessings, both in wealth and account, if then instead of either Well, Pumpe, Pond, or Cisterne, you erect Conduits, or continuall running Fountaines, composed of Antique workes, according to the curiositie of mans invention, it shall bee more gallant and worthy: and these Conduits or water-courses, you may bring in Pipes of leade from other remote or more necessary places of water springs, standing above the levell of your Garden, as every Artist in the profession of such workes can more amply declare unto you, onely for mee let it bee sufficient to let you understand that every Garden would bee accompanied with water.

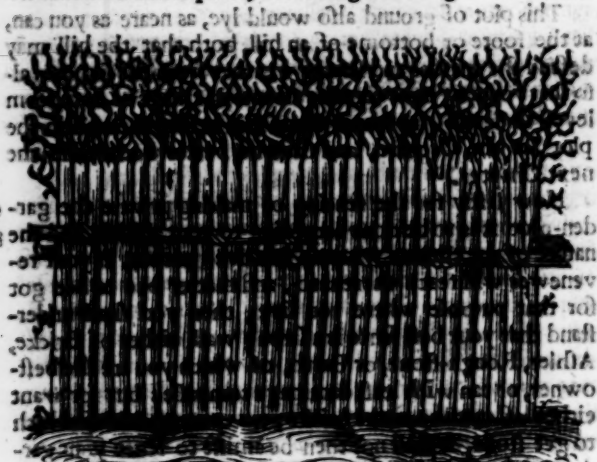
Also you shall have great care that there adjoyne not unto your Garden-plot any common-shewers, stinking or muddy dikes, dung-hills, or such like, the annoyance of whose sinels and evill vapours doth not onely corrupt and breede infection in man, but also cankereth, killeth and consumeth all manner of plants, especially those which are most pleasant, fragrant, and oderiferous, as being of tenderest nature and qualitic: and for this cause divers will not allow the moving of garden-plots about, imagining that the over great moistnesse thereof, and the strong sinels which doe arise from the mud in the Summer season, doe corrupt and putrefie the herbes and plants within the compasse of the time; but I am not altogether of that opinion, for if the water be sweet, or the channell thereof sandy or gravelly, then there is no such scruple to be taken: but if it be contrary, then it is with all care to bee avoyded, because it is ever a Maxime in this case, that your Garden-plot must ever bee compassed with the pleasantest and sweetest ayre that may be.

The windes which you shall generally defend from your Garden, are the Easterne windes and the Northerne, because they are sharpest, coldest, and bring with them tempers of most unseasonableness, and albeit in *Italy*, *Spain*, and such like hot Countreyes, they rather defend away the Westerne and Southerne winde, giving free passage to the East and North, yet with *England* it may not be so, because the naturall coldnesse of our climate is sufficient without any assistance to further bitterness, our best industry being to bee employed rather to get warmth, which may nourish and bring forth our labours, then any way to diminish or weaken the same.

This plot of ground also would lye, as neare as you can, at the foore or bottome of an hill, both that the hill may defend the windes and the weather from this side, also that you may have certain alleys or fillings of hedges from level to level, as was shewed before shewed in the plot for the Orchard, and shall be better declared in the next Chapter.

Now lastly for the fencing or making private the garden-plot, it is to be done according to your ability, and the garden. nature of the climate wherein you live: as thus, if your revenues will reach therunto, and matter bee to bee got for that purpose where you live, then you shall understand that your best fence is a strong wall, either of Bricke, Ashler, Rough-stone, or Earth, of which you are the best-owner, or can with least damage compasse: but for want either of earth to make bricke, or quarries out of which to get stone, it shall not then be amisse to fence your garden with a tall strong pale of seasoned Oake, fixt to a double parris raile, being lined on the inside with a thicke quick-set of White-thorne, the planting whereof shall be more largely spoken of where I intreate of fencing onely. But if the place where you live in, be so barraine of timber that you cannot get sufficient for the purpose, then you shall make a studd wall, which shall be splinted,

and loamed both with earth and lime, and haire, and scope
upon the toppe (to defend any wee) either with ryle,
flax, or straw, and this wall is both beautifull, and of
long continuance, as may be seene in the most parts of the
South of this kingdome: but if either your poverty or di-
mashion doe deny you timber for this purpose, you shall then
first make a small trench round about your Garden-plot,
and set at least foure rowes of quicke-set of white-Thorne,
one above another, and then round about the out-side, to
defend the quicke-set, make a tall fence of dead wood, being
either long, small, bushy poles prickt into the earth, and
standing upright, and so bound together in the waste bet-
twene two other poles, according to the figure set downe



being so high that no any kind of Pullet may flie over
the same, or else an ordinary hedge of common wood,
being bearded upon the top with sharpe Thornes, which
will that no any thing may dare to adventure over it, and

this

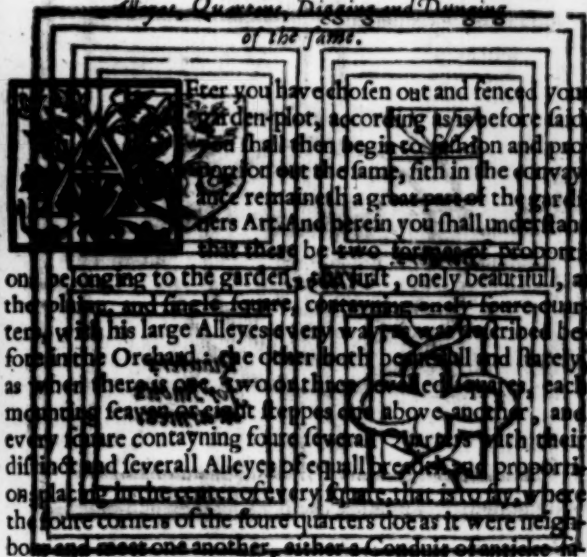
this

this

this dead fence you shall repaire and maintaine as occasions shall require from time to time, till your quick set bee growing up, and by continuall plashing and interplandings be made able and sufficient to fence and defence your garden, which will be within five or seaven yeares at the most, and so continue with good order for ever. And thus much for the situation of gardens.

CAP. XVII

Of the fashion of the garden-plot for pleasure, the
Alleyes, Quarters, Digging and Duncing
of the same.



The fashion.

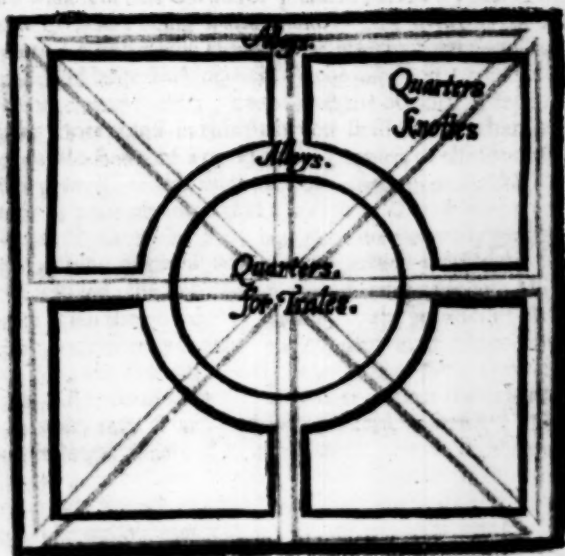
Ever you have chosen out and fenced your garden-plot, according as is before said, you shall then begin to fashion and partition out the same, fith in the conveyance remained a great part of the gardeners Art. And herein you shall understand that these be two formes of proportion, belonging to the garden, the first, onely beautifull, as the plaine, and simple square, containing onely foure quarters with his large Alleyes every waye as is described before in the Orchard: the other both beautifull and stately, as when there is one, two or three divided squares, each mounting seaven or eight steppes one above another, and every square containning foure severall quarters with their distinct and severall Alleyes of equall breadth and proportion, placing in the centre of every square, that is to say, where the foure corners of the foure quarters doe as it were neighbour and meet one another, either a Conduit of antique fashion, a Standard of some unusuall devise, or else some Pyramid, or other Pyramid, that may grace and beautifie the garden. And herein I would have you understand that I would not have you to cast every square into one forme or fashion of Quarters or Alleyes, for that would shew little variety

or invention in Art, but rather to cast one in plaine Squares, another in Triangular, another in Roundalls, and so a fourth according to the worthinesse of conceits, as in some sort you may behold by these figures, which questionlesse when they are adorned with their ornaments, will breede infinite delight to the beholders.

The Plaine Square.



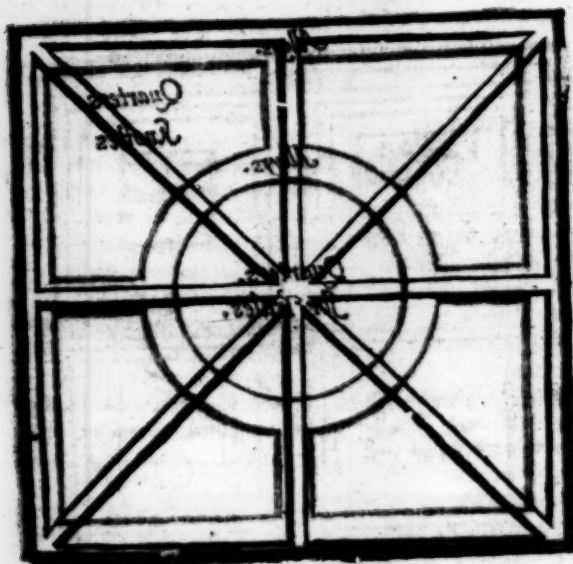
The Square Triangular
or Circular.



The

The Square of eight Diamonds.

OF CIRCLES.



The

From

From the modell of these Squares, Triangles, and Rounds, any industrious braine may with little difficulty derive and fashion to himselfe divers other shapes and proportions, according to the nature and site of the earth, which may appeare more quaint and strange then these which are in our common use, albeit these are in the truth of workmanship the perfect father and mother of all proportions whatsoever.

Now, you shall understand that concerning the Alleyes and walkes in this Garden of pleasure, it is very meete that your ground, being spacious and large (which is the best beauty) that you cut through the midst of every Alley an ample and large path or walke, the full depth of the roote of the Greene-sward, and at least the breadth of seven or eight foote: and in this path you shall strow either some fine redde-sand, of a good binding nature, or else some fine small gravell, or for want of both them you may take the finest of your pit-coale-dust, which will both keepe your Alleyes dry and smooth, and also not suffer any grasse or Greene thing to grow within them, which is disgracefull, if it be suffered: the French-men doe use to cover their Allies, either with the powder of marble, or the powder of slate-stone, or else pave them either with Pit-stone, Free-stone, or Tiles, the first of which is too hard to get, the other great cost to small purpose, the rather sith our owne gravell is in every respect as beautifull, as dry, as strong, and as long lasting: Onely this heedfulnesse you must diligently observe, that if the situation of your Garden-plot bee low and much subject to moisture, that then these middle-cut pathes or walkes must bee heightened up in the midst, and made in a proportionall bent or compasse: wherein you shall observe that the out most verges of the walke must bee levell with the Greene-sward which holded in each side, and the midst truly raised up in compasse, that the raine which falls may have a passage to each side of the Greene-sward. Now, the less this compasse is made, (so it avoid the water, and remaine hard) the better it is, be-

The ordering
of Alleyes.

cause by that meanes both the eye shall be deceived (which shewes art in the workeman) and the more level they are, the more ease unto them which shall continually walke upon them.

Objection.

Now, if any shall object, why I doe not rather covet to have these Alleves or walkes rather all greene, then thus cut and devided, sith it is a most beautifull thing to see a pleasant greene walke, my answer is this, that first the mixture of colours, is the onely delight of the eye above all other: for beauty being the onely object in which it joyeth, that beauty is nothing but an excellent mixture, or consent of colours, as in the composition of a delicate woman the grace of her cheek is the mixture of red and white, the wonder of her eye blacke and white, and the beauty of her hand blew and white, any of which is not said to be beautifull if it consist of single or simple colours: and so in these walkes or Alleves, the all greene, nor the all yellow cannot be said to bee most beautifull, but the greene and yellow, (that is to say the untroade grasse, and the well knit gravell) being equally mixt, give the eye both luster and delight beyond all comparison.

Againe, to keepe your walkes all greene, or grassy, you must of force either forbear to tread upon them (which is the use for which they were onely fashioned) or treading upon them you shall make so many pathes and ill favored wayes as will be most ugly to the eye: besides the dew and wet hanging upon the grasse will so annoy you, that if you doe not select especiall houres to walke in, you must provide shooes or boots of extraordinary goodnesse: which is halfe a deprivation of your liberty, whereas these things of recreation were created for a contrary purpose.

Now, you shall also understand that as you make this sandy and smooth walke through the midst of your Allies, so you shall not omit but leave as much greene-sward, or grasse ground of each side, the plaine path as may fully countervaille the breadth of the walke: as thus for example: if your sandy walke bee sixe foote broad, the grasse ground

ground of each side it, shall be at least sixe foote also, so that the whole Alley shall be at least eightene foote in breadth, which will be both comely and stately:

Your Alleyes being thus proportioned and set forth, Of the Quarters. your next worke shall be the ordering of your Quarters, which as I sayd before, you may frame into what proportions you please, as into Squares, Triangles, and Rounds, according to the ground, or your owne invention: and having marked them out with lines, and the Garden compasse, you shall then beginne to digge them in this manner: first, with a paring Spade, the fashion whereof is formerly shewed, you shall pare away all the greene-swarth, fully so deepe as the roote of the grasse shall goe, and cast it away, then with other digging Spades you shall digge up the earth, at least two foote and a halfe, or three foote deepe, in turning up of which earth, you shall note that as any rootes of weedes, or other quickes shall bee raised or stirred up, so presently with your hands to gather them up, and cast them away, that your mould may (as neare as your diligence can performe it) bee cleane from either wilde roots, stones, or such like offences: and in this digging of your Quarters you shall not forget, but raise up the ground of your Quarters at least two foote higher then your Alleyes, and where by meanes of such raiseure, you shall want mould, there you shall supply that lacke by bringing mould or cleane earth from some other place, where most conveniently you may spare it. that your whole Quarter being digged all over, it may rise in all parts alike, and carry an orderly and well proportioned leuell through the whole worke.

The best season for this first digging of your Garden Of Duning. mould is in *September*: and after it is so digged and roughly cast up, you shall let it rest till the latter end of *November*, at what time you shall digge it up againe, in manner as aforesaid, onely with these additions, that you shall enter into the fresh mould, halfe a Spade-graft deeper then before, and at every two foote breadth of ground, en-

larging the trench both wide and deepe, fill it up with the oldest and best Oxe or Cow-Manure that you can possibly get, till such time that increasung from two foote to two foote, you have gone over and Manured all your quarters, having a principall care that your Düng or Manure lye both deepe and thicke, in so much that every part of your mould may indifferently partake and bee enriched with the same Manure.

**Diversitie of
Manures.**

Now, you shall understand that although I doe particularly speake but of Oxe or Cow-Manure, because it is of all the fattest and strongest, especially being old, yet their are divers respects to bee had in the Manuring of Gardens: as first, if your ground bee naturally of a good fat blacke, and well tempered earth, or if it bee of a barren, sandy, hot, yet firme modld, that in either of these cases your Oxe, Cow, or beast Manure is the best and most sufficient, but if it be of a cold, barren, or spewing mould, then it shall be good to mixe your Oxe-dung with Horse-dung, which shall bee at least two yeares olde: if you can get it, otherwise such as you can compass: if your ground be good and fertile, be out of his drines in the summer time it be given to rise and chap as is scene in many earthes, you shall then mixe your Oxe-dung well with ashes, ors of Lime, and such like: lastly, if your earth bee too much binding and cold therewithall, then mixe your Oxe-dung with chalker or Marle, and it is the best Manure. And thus much for the generall use of earthes.

Now, for particular uses you shall understand, that for Herbs or Flowers, the Oxe and Horse-dung are the best; for rootes or Cabbages, mans ordure is the best; for Herbs, chockes, or any such like thinsly fruit, Swines-dung is most sufficient, and thus according to your settled determination you shall severally provide for every severall purpose, and so, God assisting, seldome faile in your profit. And this dunge you shall bring into your Garden in little drumblers or wheele-barrowes, made for the purpose, such as being in common use in every Husbandmans yard it

shall

shall be needlesse here elthes to shew the figure or proportion thereof. And thus much for the fashion, of digging and dunging of gardens.

CHAP. XVII.

*Of the adoration and beautifying of the Gar-**den for pleasure.*

H B adoration and beautifying of gardens

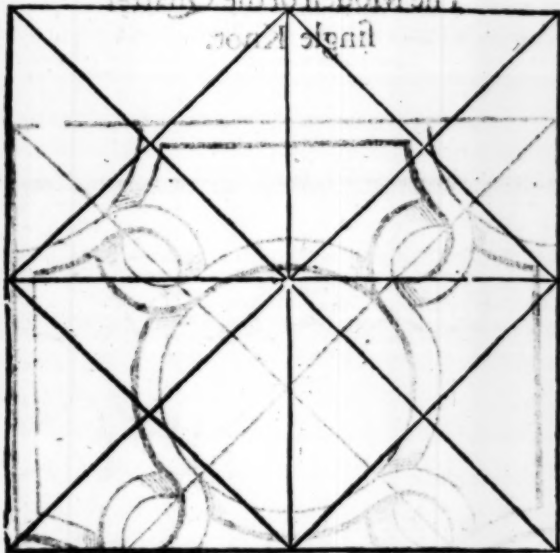
is not onely divers, but almost infinite, the industry of mens labours, busely be- getting and bringing forth such new gar- ments and imbroyders for the eatch, that it is impossible to say, this shall be singu- lar, neither can any man say, that this or that is the best? For as mens tastes to their fancies are carri- ed away with the variety of their affections, some being pleased with one sort, and some with another, it will not therefore give preheminance to any one beauty, but descri- bing the faces and glories of all the best ornaments generally or particularly used in our English gardens, referre every man to the election of that which shall best agree with his fancie.

To beginne therefore with that which is most an- Of Knots and
cient and at this day of most use amongst the vulgar Mazes.
though least respected with great ones, who for the most part are wholly given over to novelties: you shall under- stand that Knots and Mazes were the first that were recei- ved into admiration, which Knots or Mazes were placed upon the faces of each severall quarter, in this sort: first, a- bout the verge or square of the quarter was set a border of Primpe, Boxe, Lavandar, Rose-mary, or such like, but Primpe or Boxe is the best, and it was set thicke, at least eighteene inches broad at the bottome, and kept with

clipping both smooth and leuell on the toppe and on each side; those borders as they were ornaments, so were they also very profitable to the Huswife for the drying of linnen clothes, yarne, and such like: for the nature of Boxe and Primpe being to grow like a hedge, strong and thicke together, the Gardiner with his sheares, may keepe it as broad and plaine as himselfe listeth. Within this border shall your knot or maze bee drawne, it being ever intended that before the setting of your border your quarter shall bee the third time digged, made exceeding leuell, and smooth, without clot or stone, and the Mould with your Garden Rake of Iron, so broken that it may lye like the finest ashes, and then with your Garden Mauls, which are broad boards of more then two foote square set at the ends of strong staves, the earth shall bee beaten so hard and firme together, that it may beare the burden of a man without shrinking. And in the beating of the Mould you shall have all diligent care that you preserve and keepe your leuell to a haire, for if you faile in it, you faile in your whole worke.

The

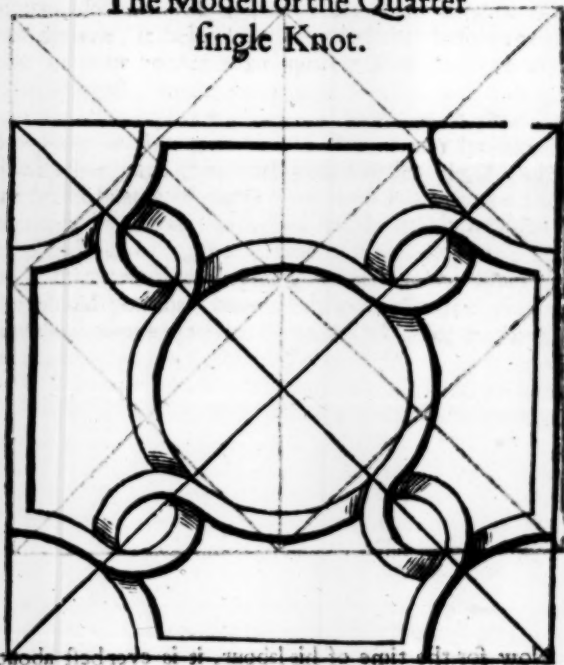
The Modell of drawing lines to frame
all single Knots.



Now for the time of his labour, it is ever best about the beginning of *February*, and indifferent about the midst of *October*, but for the setting of your *Primpe*, or *Boxe-border*, let the beginning of *November* be your latest time, for so shall you be sure that it will have taken roote, and the lease will flourish in the Spring following : at which time
your

your ground being thus artificially prepared, you shall begin to draw forth your Knot in this manner: first, with lines you shall draw the forme of the figure next before set downe, and with a small instrument of yron make it upon the earth.

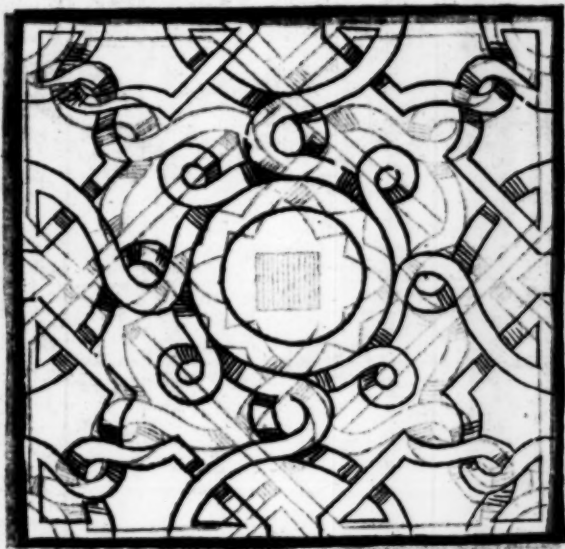
The Modell of the Quarter
single Knot.



Which done, from the order and proportion of these lines you shall draw your single knot, a plain knot of the least curiositie

curiositie, as may appeare by this figure, being one quarter of the whole Knot: ever proportioning your Trayles and winding according to the lines there described, which will keepe your worke in just proportion, as you may perceive by this Figure, which being but the fourth part of a complete Knot, by adding the other three parts unto it, it will appeare an exact Knot, though but a single Knot; and in this wise, and by the helpe of these single lines you may draw any single Knot whatsoever: as for example, this Knot following being single, yet more curious,

The single implete Knot.



E c

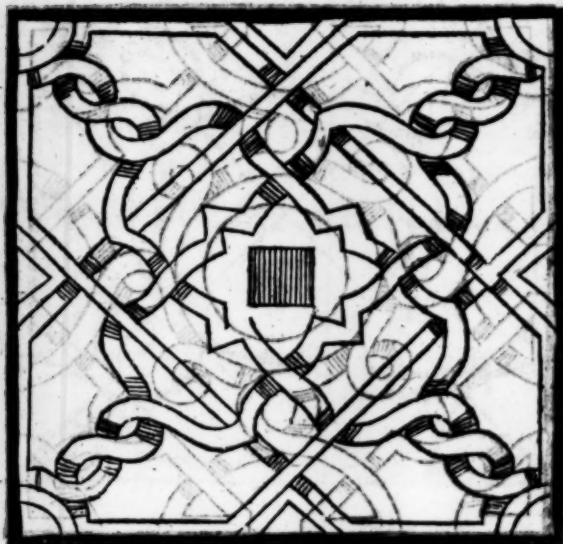
Or

of the whole Knot: ever proportioning your Taper and winding according to the lines there directed, which will keep your work in its proportion, as you may perceive.

Or this composed of Diamonds.

The Diamond Knot. This Knot is composed of Diamonds, and by the help of these you may draw the single Knot, as for example, this Knot following being made yet more and more.

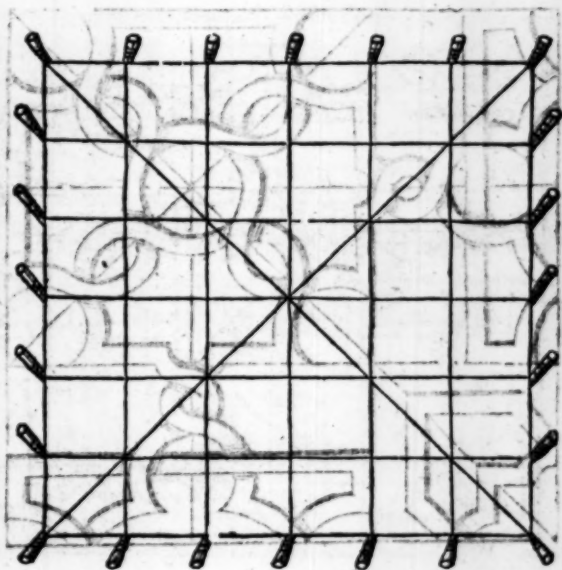
The single imple Knot.



But

But if you desire to have Knots of much more curiositie being more double and intricate, then you shall draw your first lines after this proportion here figured, pinning downe every line firme to the earth with a little pinne made of wood.

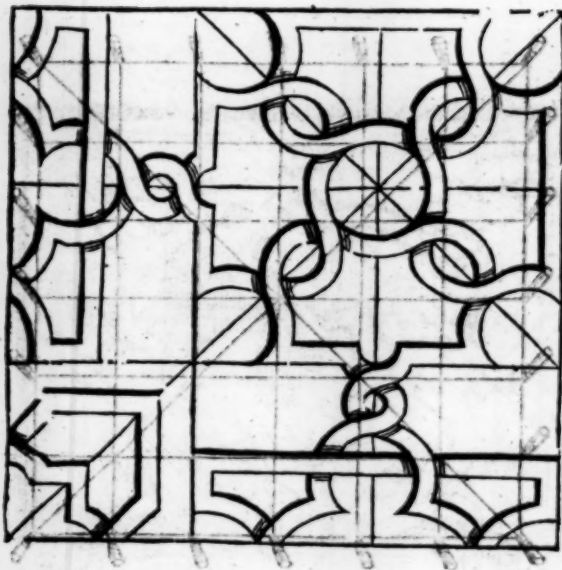
The Modell of drawing lines for
all Double Knots.



Which done you shall draw your double and curious Knots after the manner of the figure following, which is also but one quarter of the whole Knot, for looke in what

manner you doe one Knot, in like sort will the other three quarters succeed, your lines keeping you in a continuall even proportion, beinge divided into four parts, and each part beinge divided into four parts, and so on, till you have made every line in the knot with a line made of

The quarter Double Knot.
The Model of drawing lines for
all Double Knots.

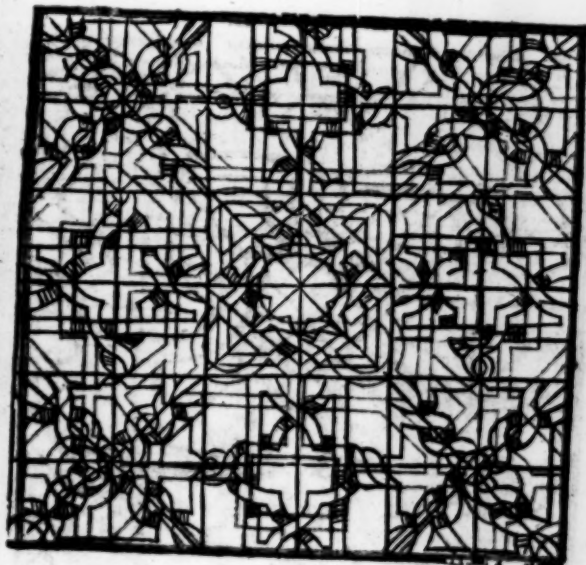


And in this manner as you draw these quarters of Knots, so you may draw out the whole Knots also, as this which consisteth of straight and direct forth right lines.

Of this which is more straight and more clear, and
made more plain, both to the eye and the hand of the
WORKMAN.

The Knot of Straight lines.

Another more straight.



Next

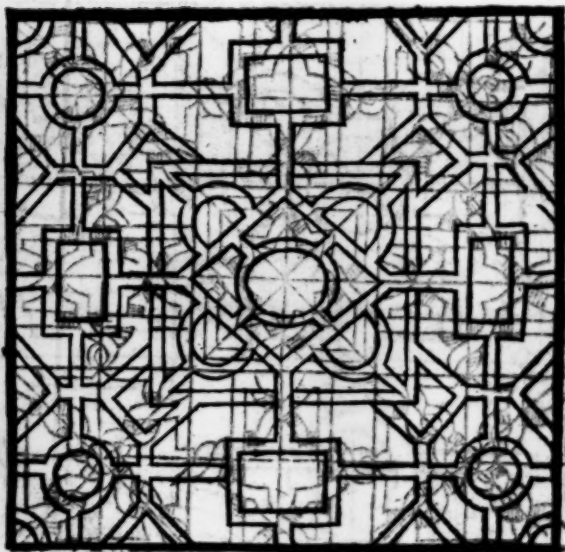
Et 3

With

Or this which is more straight and more dilated, and made more plaine, both to the eye and the hand of the Worke-man.

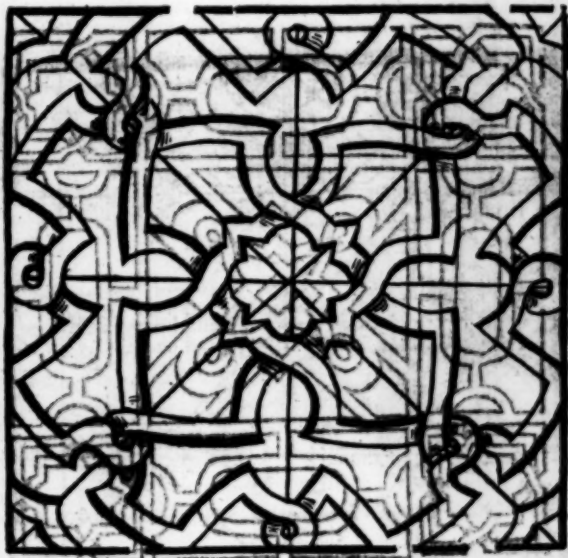
The Knot of straight lines.

Another more straight.



Next these I place your mixed Knots, which consist partly of Straight Lines, partly of Crosse, partly Diamond, and partly Diagonall: as for example, this Knot following wherein all sorts of Lines are expressed.

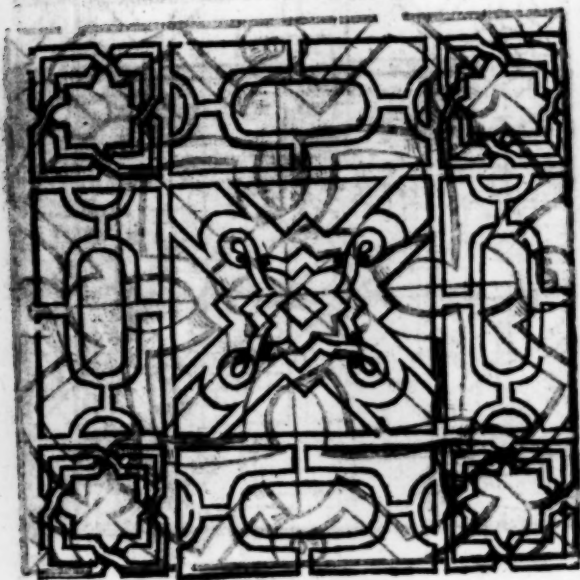
The plaine mixed Knot.



Or

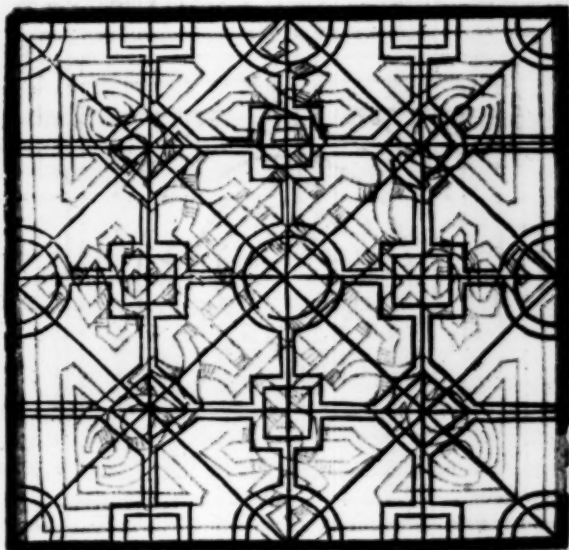
Next these I place your mixed-Knots, which consist
 Of this which as it is straight and diamond, so it is also
 circular and round, and indeed carrieth in it a great deale
 of excellent art.

The Knot Direct and Circular.



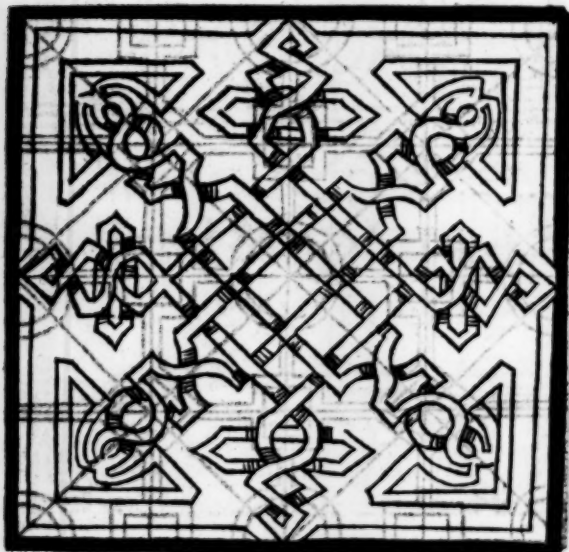
Next these I place your simple, single Diamond Knots being no lesse beautifull in Gardens, then any of the other before shewed, especially when they are mixt both with Roundes and Squares, as you may see in this figure following.

The single Diamond Knot with
rounds and squares.



Lastly, I recommend unto you this Double Diamond Knot, being altogether diamond and pointed cleane throughout without any Rounds or direct straight Lines, as appeareth by this figure following.

The double Diamond Knot.



With the like helpes and lines also you shall draw out your Mazes, and Laborinths, of what fort or kind soever you please, whether they be round or square, according to the proportion of this Modell following, which albe it be round, which is most curious and hard, yet you may at pleasure by direct lines make them square, diamond; or of any other proportion.

The Maze.



Now, as soone as you have drawne forth and figured your knot upon the face of your quarter, you shall then set it either with Germander, Hissop, Time, or Pinke-

Gilly-flowers, but of all herbes *Germander* is the most principall best for this purpose: divers doe use in knots to set Thurst, and in time of need it may serue, but it is not so good as any of the other, because it is much subject to beeaine with frost, and will also spread upon the earth in such sort, that without very painfull cutting, it will put your knot out of fashion.

Now there is another beautifying or adorning of Gardens, and it is most generally to be seene in the Gardens of Noblemen and Gentlemen, which may beare coate-armour, and that is, instead of the Knots and Mazes formerly spoken of, to draw upon the faces of your Quarters such Armes, or Ensignes, as you may either beare your selfe, or want preserve for the memory of any friend: and these armes being drawne forth in plaine lines, you shall see those paine shadowing lines either with *Germander*, *Hissop*, or such like herbes: and then for the more ample beautie thereof, if you desire to have them in their proper and lively colours (without which they have but one quarter of their iuter) you shall understand that your colours in Armory are thus to be made. First, for your metalls: you shall make your Yellow, either of a yellow clay, usually to be had almost on every place, or the yellowest sand, or for want of both, of your Flanders tile, which is to be bought of every Ironmonger or Chandler; and any of these you must beate to dust: for your White you shall make it of the coarsest chalke beaten to dust, or of well burnt plaister, or, for necessity, of lime, but that will soone decay: your Blacke is to be made of your best and purest coaledust, well cleanted and sifted: your Red is to be made of broken uselesse bricke beaten to dust, and well cleanted from spots: your Bew is to be made of white chalke, and blacke coaledust mixed together, till the blacke have brought the white to a perfect blewnes: lastly your Greene, both for the naturall property belonging to your Garden, as also for better continuance and long lasting, you shall make of Camomill, well planted where any such colour is

Yellow.

White.

Blacke.
Red.

Blew.

Greene.

to be used, as for the rest of the colours, you shall see them, and grow them into their proper places, and then with a flat beating-hoe you shall beat it, and incorporate it with the earth, and as any of the colours shall decay, you shall diligently repaire them, and the turf will be most beautifull.

There is also another beautifying of Gardens, which although it last not the whole yeare, yet it is most quaint, rare, and best eye-pleasing, and thus it is: you shall upon the face of your quarter draw a plaine double knot, in manner of Billet-wife: for you shall understand that in this case the plainest knot is the best, and you shall let it be more then a foot betwixt line and line (for in the largenesse consists much beauty) this knot being locked out, you shall take Tiles, or the like, and lay them within the lines of your knot strongly within the earth, yet so as they may stand a good distance above the earth, and this doe till you have set out all your knot with Tiles: then precisely note the severall passages of your knot, and the severall divisions which it consisteth, and then betwixt your tiles, which are but as the shadowing Tiles of your knot, plant in every severall chaid, flowers of one kinde and colour, as thus for example: In one chaid plant your carnation Gilly-flower, in another your great white Gilly-flower, in another your single coloured Gilly-flower, and in another your blood-red Gilly-flower, and so likewise if you can compass them (you may in this sort plant your severall coloured Hyacinths, also the red, the blew, and the yellow, or your severall coloured Daffodils, and many other Italian and French flowers of your own, if you please, take care, as severall plants have, and place them as aforesaid, the grace of all which is, that so soon as the flowers shall put forth their beauties, if you stand a little remote from the knot, and any thing above it, you shall see it appear like a knot made of divers coloured Ribbons, most pleasing and most rare.

Many other adornments and beautifyinges there are which belong to the setting forth of a curious Garden, but

forasmuch as none are more rare or more esteemed then these I have set downe, being the best ornaments of the best Gardens of this kingdome, I thinke them tastes sufficient for every Husbandman, or other of better quality which delighteth in the beauty and well trimming of his ground.

CHAP. XVIII.

How for the entertainment of any great Person, in any Parke, or other place of pleasure, where Summer-bowers are made, to make a compleat Garden in two or three dayes.

IF the honest English Husbandman, or any other, of what quality soever, shall entertaine any Noble personage, to whom hee would give the delight of all strange contentment, either in his Parke, or other remote place of pleasure neere unto Ponds, Rivers, or other waters of cleerenesse, after he hath made his Arbors and Summer-bowers to feast in, the fashion whereof is so common that every labourer can make them, he shall then marke out his Garden-plot, bestowing such sleight fence thereon as he shall thinke fit: then he shall cast forth his alleyes, and devide them from his quarters, by paring away the greene-swarth with a paring Spade, finally, and even, by a direct line (for a line must ever be used in this worke) then having store of labourers (after the upper-most swarth is taken away) you shall cast up the quarters, and then breaking the mould and levelling it, you shall make sad the earth againe, then upon your quarters you shall draw forth either Knots, Armes, or any other devise which shall be best pleasing to your fancie, as either knots with single or double trayles, or other emblemicall devise, as Birds, Beasts, and such like: and in your knots where you should plant hearbes, you shall take greene-sods of the richest grasse, and cutting it proportionably to the knot, making

making a fine trench, you shall lay in your sod, and so joyning sod to sod close and artificially, you shall set forth your whole knot, or the portraiture of your armes, or other devise, and then taking a cleane broome that hath not formerly been swept withall, you shall brush all uncleannesse from the grasse, and then you shall behold your knot as compleat, and as comely as if it had beene set with hearbes many yeares before. Now for the portraiture of any living thing, you shall cut it forth, joyning sod unto sod, and then afterward place it into the earth, now if within this plot of ground which you make your Garden piece, there be either naturall or artificiall mounts or bankes upon them, you may in this selfe-same manner with greene sods set forth a sight, either at field or river, or the manner of hunting of any chase, or any story, or other devise that you please, to the infinite admiration of all them which shall behold it; onely in working against mounts or bankes you must observe to have many small pinnes, to stay your work and keepe your sods from slipping one from another, till such time as you have made every thing fast with earth, which you must ram very close and hard: as for Flowers, or such like adornments, you may the morning before, remove them with their earth from some other Garden, and plant them at your best pleasure. And thus much for a Garden to bee made in the time of hastie necessity.

How
to make a Garden in the time of hastie necessity.

CHAP. XIX.

*How to preserve Abricots, or any kinde of cherries
Outlandish-fruits, and make them beare plenty
full unto the Spring, or Beginning of Summer, never
falling wither.*

Have knowne divers Noblemen, Gentle-
men, and men of under qualitie, that
have beene most laborious how to pre-
serve these tender stone-fruits from the
violence of stormes, frost, and windes, and
to that end have beene at great cost and
charges, yea many times have found much
toe in their labours, wherefore in the end, through the
fructification of many experiments, in this hath beene found
(which I will here set downe) the most approved way
to make them beare with some all kinde of danger. After
you have planted your Abricot, or other delicate fruit, and
plaine directly against a wall, in winter is hath beene be-
fore declared, you shall over the tops of the trees set along
the wall, build a huge pentise, of or least fixe or seven foot
in length, which pentisse over-shaddowing the trees, will,
as experience hath found out, so defend them, that they
will ever beare in as plentifull manner as they have done a-
ny particular yeare before. There be many that will scoffe,
or at least, give no credit to this experiment, because it
carrieth with it no more curiositie, but I can assure thee
that art the honest English Husbandman, that there is no-
thing more certaine and unfallible, for I have seene in one
of the greatest Noblemens Gardens in the kingdome,
where such a pentisse was made, that so farre as the pentisse
went, so farre the trees did prosper with all fruitfulnessse,
and where the pentisse ended, not one tree bare, the Spring-
time

time being most bitter and wonderfull unseasonable.

Now I have some some great Personages (whose purses may buy their pleasures at any rate) which have in those penitents fixed divers strong hooks of yron, and then made a Canvass of the best Foldvie, with most strong ropes of small cords, which being hung upon the yron hooks, reach from the penitents to the ground, and so laced with horse and small pulleyes, that like the saile of a ship it might be let up, and let down at pleasure: this Canvass thus prepared is all the Spring and latter end of Winter to be let down, the setting of the Sonne, and to be draw up at the rising of the Sonne againe. The opinion of Spain, refused to such have abilitie to buy their delight without loss, assuring them that all reason and experience doth find it most probable to be most excellent, yet to the plaine English Husbandmen I give certaine assurance that this penitence truly is sufficient enough and will defend all Grapes, whatsoever. And thus much for the preservation and increase of all Kindes Stone fruit, of what nature, or climate, bred forever.

CHAP. XX.

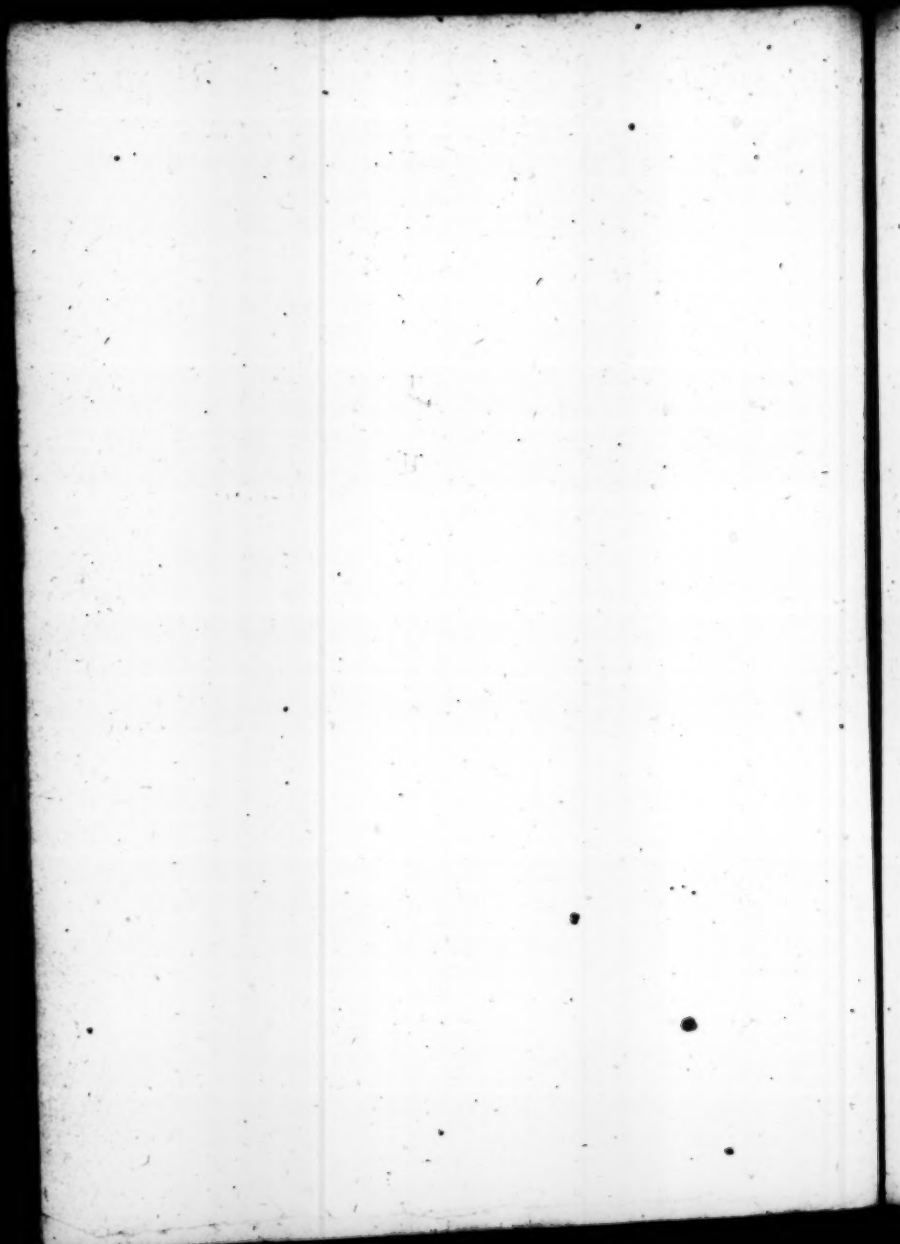
How to make Grapes grow in bushes, full, and in winter, and to ripen in a due season, and be as long lasting as either in France or Spaine.

THE GARDINERS of our English, and those of the best and most approved judgement, have bene very industrious to bring Grapes, in our kingdome, to their true nature and perfection: and some great persons I know, that with infinitos and a hope prosperous success have planted a Vineyard of many Acres, in which the hands of the best experienced French-men have bene employed: but for those great workes they are onely for great men, and not for the plaine

you a taste of some of the first parts of English Husbandry, which if I shall finde thankfully accepted, if it please God to grant me life, I will in my next Volume, shew you the choice of all manner of Garden Hearbes and Flowers, both of this and other kingdomes, the seasons of their plantings, their flourishing and orderings: I will also shew you the true ordering of Woods, both high and low, as also the breeding and feeding of all manner of Cattell, with the cure of all diseases incident unto them, together with other parts of Husbandry, never before published by any Authour: This I promise, if God bee pleased: to whom be onely ascribed the glory of all our actions, and whose name be praised for ever.

Amen.

FINIS.



THE
Second Booke of the
English Husbandman.

CONTAYNING
the Ordring of the Kitchin-Gar-
den, and the Planting of strange Flowers :
the breeding of all manner of CATTELL.
Together with the Cures, the feeding of
Cattell, the Ordring both of Pastures, and
Meddow-ground: with the use both
of high wood, and under-wood:

WHEREUNTO IS ADDED
a Treatise, called *Good mens Recreation*:
Contayning a Discourse of the generall Art
of Fishing, with the Angle, or otherwise:
and of all the hidden secrets belonging
thereunto.

TOGETHER
With the Choyce, Ordring, Breeding, and Dyering
of the fighting-Cocke.

Newly reviewed, enlarged, corrected, and amended by the Author.

By G. M.

LONDON,
Printed by IOHN NORTON, for HENRY
TAVNTON, in St. Dunstons Church-yard, in
Fleet-street. 1635.

THE
Second Booke of the

CONTAYNING

the Ordering of the Kitchen-Gar-

den, the Pl. of the House Flowers;

the Pl. of the Garden, the Pl. of the

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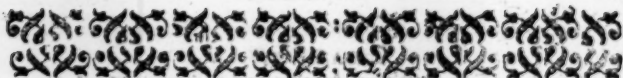
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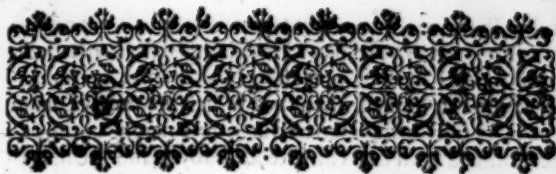
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fighting-Cocke.

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THE



THE FIRST

Part of the second

Booke of the *English Husband-*

man: Contayning the ordning of the Kitching-
garden, the planting of strange Flowers, and
the preservation of all Seeds, Hearbs, Flow-
ers, and Fruits from noysome things.

CHAP. I.

*The choyce of ground for the Kitchin-garden; and the
ordning thereof.*



Promise honest, and profitable
being seriously made, I hold a
sinne capitall to neglect, especi-
ally where the goodnesse stret-
cheth it selfe over a whole King-
dome: and hence I have assu-
med to perfect both my promise,
and my labour in building up
that weake foundation which I
formerly layd, of the *English Husbandman*: wherein,
contrary to all other Authors, I am neither beholding to
Pliny, Virgil, Columella, Varo, Rutillius, Libani, nor any
other

other Forrainger, but onely to our owne best experient Countrymen, whose daily knowledge hath made them most perfect in their professions: and what better instruction can be had than that which we receive from the professors being men of our owne neighbourhood, acquainted with our Climate, and Soyle, and the necessary things agreeing with the bettering of the same? and not resort as our Translators have done, to strangers helpe, who tels you that you must measure your ground with Asses dung, when our Kingdome hath not so many foure-footed Asses as will measure one Acre, and many such like things which our Kingdome affordeth not: therefore according to the plaine true English fashion, thus I persue my purpose.

The choyce
of Ground.

Touching the choyce of Ground, I have in the former part of this Booke shewed you the true nature, and goodnes of every severall Soyle, and you are to understand that the best Soyle is best for this purpose, because it is least labourfome; and most profitable: yet notwithstanding that some of our translated Authors doth utterly disallow for Gardens many Soyles, as namely, all Sands, all Chawky earths, all Gravell, all Earths like dust, and any Earth which chappeth or openeth in the heat of Summer, by that meanes depriving almost halfe our Kingdome of the benefit of Gardens, yet I assure you that there is no Soyle whatsoever (if it lie from the inundation of water, or be not absolutely boggy) but with industry will beare any Fruit, Hearbe, or Flower plentifully, and without any casualty proceeding from the barrenesse thereof: witness a most worthy Garden in the barren Peake of *Darbyshire*, where there is no curious Tree, or Plant wanting, nor doe they flourish, in any place more bravely.

Now for mine owne part; I write generally to all Husbandmen, not to those only which live in fertile, and fat Soyles, and therefore I would have no man say, the Soyle where I live is so barren, that I cannot have

a Garden: for if the Soyle wherein you live, be barren, The bettering
of Grounds.
than shall you in the latter end of September breake up
your Earth more than a Spade graft deepe, and be well
assured that at every Spade-graft you breake the mould
well, and leave not the roots of any weeds within it,
then let it rest till the midst of October, at which time
if any weeds appeare upon it, by all meanes let them be
pluckt up by the roots, which done, you shall trench
your ground at least a yard, and a halfe deepe, and than
bury in those trenches, if it be a Sand or Gravell earth, The trenching
of Grounds.
great store of Oxe or Cow manure, if it be a cold Chal-
ky Clay, or a moyst ground, than great store of Horses
manure, of both which manures the oldest, and rotte-
nest is the best: but if you live in such a Soyle as there is
neyther of these manures bred therein, then take straw
of any kind whatsoever, and spread it in the high-way
where there is much travell, and when it is rotten with
the beating of Horsefeet, than cause it to be shoveld up,
and with it fill your trenches, but if Straw be wanting,
than if you have any muddy ditches or ponds, scowre
the mud out of them, and with it fill up your trenches;
and although these are not so long lasting as the two
first sorts of manures, yet they are sufficient to bring
forth increase, and must supply where necessity inforceth,
alwaies having discretion when you see your ground
abate in fruitfulness, to replenish it with fresh manure.

Now as you fill your trenches with manure, let one
mixe the Earth therewithall, and as it were blend, and
incorporate them together: thus having gone over so
much ground as you intend to plant or sow upon, you
shall let it rest till the midst of January, at which time
you shall breake it up in trenches againe, but not above
three quarters of a yard deepe, and then fill up those
trenches with manure as before, and lay your Earth as
levell as is possible, and so let it rest till the beginning
of March (if the weather be seasonable for sowing or
planting) otherwise let it stay till mid-March, and as

soone as the Moone is changed you shall then dig it up the fourth time, and make it fit to receive your Seed, but in this fourth time of turning over your earth, you shall dig it but a little better than a Spade-graft deepe, and ever as you dig it, mixe it with fresh manure: if your ground be subject to much chapping or riving, then you shall at this last digging mixe the earth with ashes, and Horse manure mixt together, which will binde, and hold the earth from chapping.

Of breaking
the Garden
moulde.

Ordering of
Garden beds.

After you have digd your ground in this order, and made it leuell, you shall with an iron Rake breake the great clods of Earth, and bring it to as fine a mould as is possible, ever observing that if in the breaking of the clods or otherwise you perceive the roots or stalks of any weeds to arise, you shall presently with your hand pull them out, and cast them on heaps, that they may serve eyther for the fire or the dunghill: which done, you shall tread out your beds in such orderly sort, that you may passe from one to the other without eyther treading upon the beds, or striding over them: and thus much for the barren, and sterill ground, which although all ancient, and late writers reject, as not worthy to be employed to this use, yet beleeeve it, being husbanded as is said before, it will equall in fruitfulness the best ground.

Of the fruit-
full Soyle.

Touching your rich, and perfect grounds, which of themselves are apt to put forth with little labour, you shall onely at the latter end of September breake up the Earth, and making greater Trenches, fill them well with Oxe manure, and then turning the Earth upon the manure, leuell your ground very carefully, breake the clods, and rake it very painfully, and then tread out your beds, as is before sayd artificially: but if the ground which you breake up, be eyther greene-swarth, or much overgrowne with weeds (as these rich soyles must ever be the one or the other) (for they will not be idle, but continually bringing forth) then at this first digging, and dunging

dunging you shall have divers which follow the Spade: who shall take away all manner of roots, greenes, grasse-tufts; stones; or whatsoever may breed anyance to the ground: which worke being perfected, you shall let the ground rest all winter till the beginning of March, that the frost may mellow, and ripen the mould, and also kill the roots of such weeds as the Spade hath turned up, and have beene omitted to be pulled away.

Now so soone as March is come, upon the first change of the Moone, you shall dig up this Earth againe, leuell it, and order it in all poynts as was sayd of the barren Earth, only there will need no more use of manure, but as soone as it is digged, raked, levelled, and brought into a fine mould, you may then tread out your Beds, as aforesayd, ever proportioning the quantity of them according to the quantity of your seeds, having the most of that which is most in use, and the least of the contrary.

Now as touching the fencing, and inclosing of your Garden, I have in the former Booke shewed you the same at large, and given severall instructions, according to mens severall abilities, with this caution, that whether your fence be wall, pale, dead-hedge, ditch, or quickset, yet it must be so high that it may with assurance keepe all manner of Pullen from flying over the same, who are the greatest enemies to a Garden that may be.

There would be also in this Kitchin-Garden, if with conveniency it may be brought to passe, eyther a Pumpe, Well, or Cesterne; which might flow continually with water all the Summer time, for the watering of Hearbs, as shall be hereafter declared. And thus much touching the choyce of ground for a Kitchin-garden, and the ordering of the same.

The necessary
est Ornament
in a Garden.

CHAP. II. A yowes of sowing
Of the sowing, and ordering of all manner of Pot-hearbs.



Hen you have prepared your ground, and cast your beds in an orderly fashion, as is before spoken, you shall then take your Seeds, which Seeds would by no meanes be above a yeere old: and having sorted them severally, every one by it selfe, and appoynted the beds which shall severally receive them: you shall in this manner sow your Pot-hearbs, which crave not much root, because their onely benefit is in the leafe: take your seeds, and put them into a wooden Tray, then take of your Garden-mould, the finest that may be, being made almost as fine as ashes, and mixe your Seeds, and that mould very well together, then go to the bed, where you meane to bestow them, and having newly rakt it (to stirre up the fresh mould) with your hand sprinkle, and sow them all over the bed, so thicke as may be: which done, with a fine rake, Rake the bed gently over, then taking spare fine mould, put it into a ridling Sive, and sift it over the bed better than two fingers thickenesse, and so let it rest: thus you shall doe severally with every seed one after another, bestowing every one upon a severall bed.

Of all sorts of
Pot-hearbs.
Of *Endive*, and
Succory.

Now for your Pot-hearbs, which are most generally in use, they be these: *Endive*, and *Succory*, which delight in moyst ground, and will endure the winter. *Bleete* of which there be two kinds, Red, and White: this Hearbe never needeth weeding, and if he be suffered to shed his seed it will hardly ever be got out of a Garden.

Of *Beets*.

Then *Beets*, which must be much weeded, for they love to live by themselves, and if they grow too thicke you may take them up when they are a finger long in their owne earth, and set them in another bed, and they will prosper much better.

Land-Cresses.

Then land-Cresses, which is both a good Pot-hearbe, and

and a good Sallet-herbe: it loveth shadowy places, where the Sunne shineth least, and standeth in need of little dung.

Then *Parcely*, which of all Hearbs is of most use, it is *Parcely*. longest in appearing above ground, and the elder seed is the quicklier in growth, but not the surer; but eyther being once come up increase naturally, and doe hardly ever decay; it cannot grow too thicke, but as you use it you must cut off the tops with your knife, and by no meanes pull up the roots: if it be put into a little purrell, and beaten against the ground, to bruise it a little before it be sowne, it will make it have a large crisped leafe.

Then *Savory*, of which are two kinds, the Winter-*Savory*, and Summer, both delight in leane ground, and are quicke of growth, and long lasting.

Then *Time*, of which are also two kinds, the running *Time*, and the Garden *Time*, they delight in fertile ground, and from the seed are very slow of growth, therefore it is best ever to set them from the slip. The running *Time* doth delight in the shadow, but the Garden *Time* in the Sunne.

Then French-Mallowes, which will joy in any ground, *French-Mal.* and are quicke of growth. *lowest*

Then *Chervill*, which will not by any meanes grow *Chervill*. with any other Hearbe.

Then *Dill*, which may be sowne almost in any moneth *Of Dill*. of the yeere as well as March: it endureth all weathers, but loveth the warmth best.

Then *Isop* which in like manner as *Time*, is slow of *Of Isop*. growth from the seed, and therefore fitter to be set from the slips, after it hath once taken root, it encreaseeth wonderfully, and will hardly be destroyed.

Then *Mints*, which flourish onely in the Summer *Of Mints*. time, but die in the Winter, it delighteth most in the moyst ground.

Then *Violets*, the leaves wherof are a good Pot-herb, *Violets*. and the Flowers preserved in close glasse-pots, with strong

strong Wine-vinegar, and Sugar, a most excellent Sallet: it doth delight to grow high, and will grow speedily either from the plant or from the seed.

Of *Basil*.

Then *Basil*, which would be sowne in the warme weather, as at the beginning of May, for the seed is tender, and when you have sowne it, you shall presse the earth downe upon it with your feet, for the seed can endure no hollownesse: if you sow it at the fall of the Lease, you shall sprinkle the seed with Vinegar, and when you water it let the Sunne be at his height.

Sweet *Mari-
ram*.

Then sweet *Marioram*, which would be sowne on rich ground, and far from Sunshyne, for it taketh no delight in his beames.

Marigolds.

Then *Marigolds*, which renew every moneth, and endure the Winter as well as the Summer: this Hearb the oftner you remove it, the bigger it groweth.

Of *Straw-
berries*.

Then *Strawberries*, whose leaves are a good Pot-hearb, and the fruit the wholsomest berry: this Hearb of all other, would be set of the plant, and not sowne from the seed, for the oft changing, and removing of it causeth it to grow bigger, and bigger: it groweth best under the shadows of other Hearbs, but very sufficient-ly in beds, or elsewhere.

Of *Borage*, and
Buglosse.

Then *Borage*, and *Buglosse*, both which are of one nature: they would be sowne in small quantity, for where they take they will runne over a whole Garden; the seed must be gathered when it is halfe ripe it is so apt to shed, and when you gather it you must plucke up the stalks, leaves, and all, and so laying them one upon another three or foure dayes, there owne heate will bring the seed to ripenesse.

Of *Rosemary*.

Then *Rosemary*, which is an Hearb tender, and curious, yet of singular vertue; it is soone slaine with frost or lightning; it will grow plentifully from the seed, but much better from the slip, it delighteth to be planted against some Wall where it may have the reflection of the Sunne, for to stand vnpropped of him-

himselfe, the very shaking of the wind will kill it.

Then *Penroyall*, which most properly is used to be *Of Penroyall*, mixt with Puddings, made of the blood of Beasts, and Oatmeale; of it there be two kinds, male, and female: the male beareth a white flower, and the female a purple: it must be sown in small quantity, for it will runne, and spread over-much ground: it delighteth most in moylt earth.

Then *Leekes*, which would have a fertile ground, *Of Leekes*, and as soone as they be shot up a good length you shall cut the blades to the polt, and then remove the heads, and set them borderwise about your other beds: this removing after the cutting off the blads, will make them grow bigger, and prosper better, as for thrusting Oyster-shells or Tyle-sheads under them, to make the heads bigger, it is a toy, for if the mould be loose, and good, the Leek will come to his perfect growth: they may be sowne both in March, Aprill, May, and Iune, and they may be removed all Iuly, August, September, and October.

Then *Onions*, which differ not much from the nature *Of Onions*, of Leekes, they love a fertile Soyle, and would be sowne with the seeds of *Savory*: when they come up if they grow too thicke, as is often scene, you shall plucke up some, and spend them in the pot, and in saltets, to give the rest more roome, and some you shall take up, and replant in other beds, which you may preserve for seed, those *Onions* which you would not have to seed, you shall cut off the blades in the midst, that the iuyce may descend downward, and when you see the heads of the *Onions* appearing above the earth, you shall with you feet tread them into the ground: there be some very well experienced husbands, which will take the fairest, goodliest, and soundest *Onions* they can get, and in this moneth of March set them three fingers deepe in the earth, and these of all other bring forth the purest, and best seed, for which purpose onely they are preserved: as soone as

your seed-Onions are knotted, you shall underprop them with square cradles, made of sticks, least the waight of the bowles which carry the seed, should breake the blades.

Of gathering
Onion-seed,
or the Onion.

The time of gathering your seed is, when it is all turned purely backe, and the time of gathering the Onions is, when the heads doe forsake the earth, after they be gathered you shall lay them on a dry floore for a fortnight or more, and then bind them up in ropes, and hang them where they may have the ayre of the fire, onely note, that you gather your Onions in the increase of the Moone, as they were sowne, and not otherwise.

Many other Pot-hearbs there be, which for as much as they differ nothing, eyther in sowing, planting, or ording, from these which I have rehearsed, I will heere omit them, and thinke this sufficient, touching the sowing, and ording of all manner of Pot-hearbs.

CHAP. 3.

Of the sowing of certaine Hearbs, which are to be eaten, but especially are medicinall, yet ever in the Husband-mans Garden.

Of Arage:



F Hearbs which are medicinall, I will begin with Arage, or Orache, which being cold, and moyst is very excellent against the hot Gout: it is to be sowne in any moneth, from February till December: it loveth much moysture, and therefore must be oft watered: it must be sowne exceeding thin, and quickly covered, for the ayre is offensive.

Of Lumbarde
Loveage.

Next it is Lumbarde, Loveage, which being hot, and dry, is very purgative, it desireth a very fruitfull ground, but if it be sowne where it may have much shadow, and some shelter accompanied with moysture, it will grow in any ground, the moneths for sowing therof, is, from the midit of February till Harvest.

Fennell

Fennell is also hot, and dry, and it comforteth the stomacke, openeth the inward vessels, and helpeth digestion; it may be sowne in any moneth; and upon any indifferent ground, especially if it be a little stony, the seed would not be very old, though of all other it be the longest latter. Of Fennell.

Anise is hot, and dry, it dissolveth humours, and obstructions, and is very comfortable to weake stomacks, it delighteth in a good, and loose mould, and is to be sowne in the height of the Spring onely. Of Anise.

Comin is of the nature of *Anise*, and *Fennell*, and mixt with either, is very soveraigne against all inward sicknesses proceeding from cold; it loveth a fruitfull rich earth, and much warmth, and therefore the later it is sowne in the spring, it is so much the better, and above all things it would be sowne in the hottest time of the day, and if it be mixed with other seeds, it is so much the better, and appeareth the sooner. Of Comin.

Coliander is of the nature of the earth, cold, and dry, it helps digestion, and suppresseth vapours which offend the braine, it may be sowne upon any indifferent ground, and in any moneth except December, and January; the elder the seeds are, the better so they be sowne, and they desire much watering. Of coliander.

Rue or *Herb-grace* is hot, and dry, and is very soveraigne against all inward infection, putrefactions, and impostumations, it joyeth in any reasonable ground so it grow warme and dry, the moneths fittest for the sowing thereof, is March, April, or May, and the mould would be firme, and not subject to riving, whence it proceeds that no manure is so good for the encrease thereof as horse dung, and ashes mixt together: the beds would be made high, and descending, that no moysture may stay thereon, they must be carefully weeded, for in their first growth otherwise they are soone choked. Of Rue.

Organy is hot, and dry, and excellent against any sickness. Of Organy.

nesse of the liver, the ground in which it most joyeth would be a little stony, and full of rubbish, yet by no meanes undunged; the moneth fittest for the sowing thereof is March, and September, the Moone being in *Libra* or any other moyst signe, it must be continually watered till it appeare above the earth, but after sowne, for being once well fixed, it is ever certaine.

Of white
Poppy,

White *Poppy* is cold, and moyst, and much provoketh sleeper: it delights to be sowne in a rich, warme, dry ground, in the moneths of March, September, or November.

Of *Germander*

Germander is hot, and dry, and excellent against the Kings evil; obstructions of the Spleene, and hardnesse of Vrin; it is a hard Hearb, and will prosper in any ground, it is to be sowne, eyther in the spring or fall of the lease, and is most comely for the setting forth of knots in Gardens.

Of *Cardus
Benedictus*.

Cardus Benedictus, or the blessed Thistle, is hot, and dry, it is very soveraine against most inward sicknesses, stancheth blood, and is a great comforter of the braine, it delighteth in a rich ground, and loose well tempered mould, it must be sowne very shallow, and not covered above two inches deepe, the first quarter of the Moone is best to sow it in, and in the moneths of March, May or September, if you sow a little fine flaxen Wheat with it, no doubt but it will prosper the better.

Of *Angelica*.

Angelica is hot, and dry, it openeth, and dissolveth obstructions, is an excellent cordiall against poyson, and all infections, it helpeth the collicke, and cureth the biting of mad dogges, or venomous beasts, it loveth a fruitfull dry mould, but may not endure the trouble of weeds, it is to be sowne in March, or Aprill, and it flourisheth in Iuly, and August, it hath a sweet odour, and helpeth all evill, and infected ayres.

Of *Valerian*,

Valerian is hot, and dry, and preventeth infection,
it

it helpeth stitches, and other griefes proceeding from windy causes, it loveth to grow in moyst, and low places, the ground being well measured, and till it be shot at least a handfull high, it must be kept with continuall wating, the moystest time of the yeere is the best to sow it in.

Elecampana is hot, and moyst, and good for offences in the lungs, or any outward joynt, being troubled with paine proceeding from cold: it is better much to be set than sowed, yet notwithstanding it may safely enough be sowed at any time after mid-March, the ground being rich, soft, and loose, and the seed strowed very thin, and at least two fingers distance one from another.

Peppervort is hot, and dry, yet of the two much more hot, it is good against all kind of aches, and other paine in the joynts, or sinewes: it delighteth in a rich blacke Soyle, fat, and loose: it would be sowne in February, and removed in September.

Philipendula is very hot, and dry, and is good against abortive births, Stone, Strangury, or any grieve proceeding from cold causes: it may be sowne in any barren, stony, or gravelly soyle, in the moneths of May, Aprill, or September: it neyther desireth much weeding, nor much wating, but being once committed to the ground appeareth suddenly: and thus much of those Hearbs which are fit for Medicine, of which though there be many others, yet they differ not in their ording from these already declared,

CHAP. 4.

Of diuers sorts of Sallet-hearbs, their manner of sowing
and ordring.

Of Lettuce.



Amongst the many numbers of Sallet-hearbs, I thinke it not amisse to begin first with *Lettuce*, which of all other whose vertue is held in the leafe, is most delicate, tender, and pleasant: the ground than in which it most delighteth, is that which is most fertile, best laboured, and of the finest mould, being soft, loose, and more enclining to moisture than drynesse: it may be sowne in any moneth of the year, from February to November, it is very quicke of growth, and will appeare above the earth in foure daies after the sowing: it would at first be sowne thicke, and carefully kept with morning, and evening watrings if the season be dry, but not otherwise; after it is growne, and faire spread above the earth, which will be in a moneths space or thereabouts, you shall chuse out the fairest, and goodliest plants, and taking them up with the earth, and all about their roots, replant or remove them to a new bed of fresh mould, and there set them a foot distance one from another, and fixe their roots fast, and hard into the ground: then cover or presse them downe with Tyle or Slate stones, to make them spread, and not spring upward, by which meanes the leaves will gather together, and cabbadge, in a thicke, and good order, for it is to be understood, that the oftner you remove your *Lettuce*, the fairer, and closer they will cabbage. There be diuers which observe to remove *Lettuce* as soone as fixe leaves are sprung above the ground, but I like better to remove them when they begin to spindell: they are most esteemed in the moneths of Aprill, May, and Iune, for in Iuly they are supposed to carrie in them a poysonous substance.

Of Spynage.

Next the *Lettuce* I preferre the Hearb *Spynage*, which delight-

delighteth in a wel-dunged earth, and may be sowne in Aprill, March, September, or October: it would not be mixed with other seeds, because it prospereth best alone.

Spargani joyeth in a fertill moyft ground, the mould being made light which covers it, and the ground well dunged, the spring is the best time to sow it, and it must be sowne in long furrowes or trenches made with your finger, and not universally spread over the bed as other seeds are; it loveth moyfture, but may not endure the wet to lie long upon it, and therefore the beds would a little descend: it must not be removed till the roots be so feltred together, that they hinder the new branches from springing up, which commonly is two yeeres.

Of *Spargani*.

Colworts or *Cabbage*-seed delighteth in any well husbanded ground, and may be sowne in all sorts, and seasons as *Lettuce* is, and must also in the like manner be removed, after the principall leaves are come forth, which will make them to gather together, and cabbadge the better: and as they may be sowne in any season of the yeere, so likewise they may be removed at all seasons likewise, except the frost or other unseasonable weather hinder you: and although some men will not allow it to be sowne in clay-grounds, gravell, chalke, or sand, yet they are deceived; for if the earth be well ordred, they will grow plentifully, onely you must observe when you remove them to let them have earth roome enough.

Of *Colworts*.

Sage is in Gardens most common because it is most wholesome, and though it may be better set from the slip than sowne in the seed, yet both will prosper, it loveth any well-drest ground, and may be sowne cyther in February, March, September, or October, it loveth also to grow thicke, and close together, and will of it selfe overcome most weeds: it asketh not much dung, neyther too great care in wating, only it would be oft searched, for Toades, and other venomous things will delight

Of *Sage*.

delight to lie under it, the more Sunne, and ayre it hath, the better it is.

Of *Purslane*.

Purslane is a most excellent Salet-herb, and loveth a fertile soyle, and though it may be sown almost in any moneth, yet the warmest is the best, as Aprill, May, Iune, or September. Bucke ashes are an excellent meazure for them, and for most Sallet-herbs else, but above all they love dry dust, and house-sweepings; they are apt to shed their seed, whence it comes that a ground once possest of them will seldome want them, they may also be removed, and will prosper much the better.

Of *Artichokes*.

Artichokes love a fat earth, and may be sown in February or March, the Moone encreasing, the seeds must not be sown together, but set one by one a good distance asunder; they must lie somewhat deepe, and be firmly covered; yet if you can procure them, I rather wish you rather to set them from slips or young Plants, then sow them from the seeds, for they do so naturally love the earth, that you can hardly slip so wast a leafe from an *Artichoke* as will not take root; if you sow the seed, you must be carefull to weed, and water them well, for the first leaves are very tender; also if you remove them after their first springing, the fruit will be bigger, and better.

Of *Garlicke*.

Garlicke is best in September, and November, to be set from the clove, in, and about the borders of beds, or other seeds, halfe a foot one from another, and in February, March, and Aprill, to be sowne from the seed; it must be ordred as you order *Onion*-seed, it loves not much wet nor extreame drought, only it desires a good mould which is rich, and firme, yet not too much dunged.

Of *Raddish*.

Raddish loveth a fertile ground, that is well dunged chiefly with mans ordure, that is deepe trencht, and hath an easie, and light mould, and the seeds would be placed either in rowes, or about the borders of beds, as you doe *Garlicke*; the manner of sowing it is with a dibble

ble or round sticke, to make a hole into the ground almost a foot deepe, and then into that hole to put not above two seeds at the most, and then close the hole up againe, and let the holes be foure fingers one from another, it may be sown in most moneths of the yeere if the frost hinder not, and to make the root large, and tender, and to keepe the branch from seeding; you shall as it springs crop off the principall leaves which grow against the heart of the root; to tread them downe into the earth after they have fast roote is good also.

Navew, if the Earth have any small goodnesse in it, Of Navew it will grow plentifully, neyther is offended with any aire, only the mould would be loose, and rough, for otherwise it many times turneth to Rape: the seed naturally commeth up very thicke, therefore it is expedient to remove them, and plant them thinner, for that best preserveth their natures, they may be sowne in February, March, Aprill, September, or October.

Persneps or *Carrets* are of one, and the selfe nature, Of persneps, and Carrets. they delight in a good fat Earth, and would be sowne reasonably thicke, in long deepe trenches like furrowes, having a gentle, and easie mould either in the moneths of January, February, or March, or in September, October, or December, they must be carefully well weeded, and if the Earth be fat, they neede not much wating or other attendance.

Pompyons, *Gourds*, or *Mellons*, desire a very good ground, or by Nature or Art, the seeds must be sowne Of pompyons. very thinne, as at least halfe a foot one from another, they would lie reasonably deepe, yet the mould very gentle which covers them, they are subject to spread, and runne over much ground, therefore as they grow you must direct their stemmes so as they may not annoy one another, and when they flower you shall lay broad Tiles or Slate stones under them, that the fruit nor flower may not touch the Earth; if you plash them up against Trees, or walles where they may have the reflection of

the Sunne, the fruit will be larger, pleasanter, and sooner ripe; they need no weeding nor watring after you see them appeare above the earth, and the best seasons to sow them in; is February, March, or Aprill; those are the best *Pompyons* which have the smallest seeds, and are of the most yellowest complection.

Of the *Cow-cumber*.

Cowcumber, is a delicate pleasant, yet very tender fruit, and delighteth in an extraordinary fat earth, especially during the opening or sprouting of the seed, therefore the best, and most undoubted safest way for sowing them, is first in some corner of your Kitchen-garden to make a bed of two or three yards square of old Oxe dung, and Horse-dung mixt together, and at least a yard or better high from the earth, then cover this bed of dung with the richest garden mould you have, better than halfe a foot thicker then thereon place your seeds halfe a foot likewise one from another, and be most sure that your seeds be hard, and sound (for any softnesse in them sheweth rottennesse) then cover them foure fingers thicke with the like mould: then within seaven or eight daies, after you shall see them appeare aboue the earth, but in any wise let them continue still till the principall leaves be come forth, and they begin to creepe out in length, then with your hand griping the whole plant, take it up by the roots with the earth, and all, and plant it in a bed new digged, and trimmed for the purpose with a rich loose mould, and so replant, and remove each root severally one after another, and they will grow, and bring forth in great plenty. Now by the way you must observe, that as soone as you have sowed your seeds you shall provide a Mat, Canuasse, or other couering, which being placed upon stakes over the dung bed shall every night after Sunne-set be spread over the same, and not taken away till the Sunne be risen in the morning, for this will defend the seeds from frosts, and other cold dewes which are very dangerous. Now if any demand why

why these seeds are thus sown first on the bed of dung, they shall understand that besides the warmth, and fertility thereof, that the seeds are so pleasant, and tender, that wormes, and other creeping things in the earth will destroy them before they can sprout, which this bed of dung preventeth. The moneths most fit for sowing these seeds, as Aprill, May, and Iune only, for other are much to cold, and in this manner you may sow any tender seed whatsoever.

Beanes of *Egypt* delight in a moyst watrish ground, rather fertile than any way given to barrenesse, yet will plentifully enough prosper in any indifferent earth: they are rather to set than sow, because they must take strong root, and be fixed somewhat deepe into the earth, and the moneth which is most proper for them, is the latter end of Ianuary, all February, and the beginning of March only.

Of the Beanes
of *Egypt*.

Skerrets are a delicate root, white, tender, and pleasant, little differing in taste or excellency from the *Eringo*. They delight in a rich mould, moyst, and well broken, and must be set deepe in the earth; after they be a finger length above the ground they would be removed, and planted in a fresh mould, which will preserve them from speedy seeding, for when they runne to seed, they loose the vertue of their roote. The moneths fittest for the sowing of them, is March, Aprill, and May, and if you desire to have them all Winter, you may than sow them in September, and October. And thus much for Salet-hearbs, and roots, of all natures, of which kinds though there be divers other, yet you shall understand, all are to be ordred in the manner of these before rehearsed, that is to say, such as have their vertues in the stalke or leaves, like *Spinage*, *Sparagus*, *Purslane*, and such like, those which cabbadge or knit together in hard lumps, like *Lettnce*, *Colworts*, and such like, and those whose goodnesse lives in their roots, like *Raddish*, *Carrets*, *Skerrets*, and such like.

Of *Skerrets*.

A most necessary obseruation,

Now for a most necessary obseruation, every Gardner ought to beare this rule in his memory; that all Pot-hearbs must be sown thicke, and but thinly covered, as namely not above three fingers: all Hearbs which cabbage must be sown thicke, and deeper covered, as a full handfull at least, and in their removing planted thin, and well fixt into the earth: and all roots must be sown thin, and deepe, as almost a foot eyther set into the ground, or strewed in deepe furrowes, digged, and layd up for the purpose, in which the quantity of your seed must only direct you: for if you have occasion to sow hardly a handfull, then you may set them one by one into the ground at your leasure, but if you have occasion to sow many Pecks, or halfe Pecks, then you shall turne up your earth into deepe furrowes, and in the bottome thereof scatter your seed, and after rake it into a leuell, and you shall not only save much labour, but gaine your purpose.

CHAP. 5.

Of Flowers of all sorts both forraine, and home-bred, their sowing, planting, and preserving.



Having written sufficiently of Pot-hearbs, and Salet-hearbs, which are the ornaments of the Husbandmans Kitchen or Table, I will here speake of flowers, which eyther for their smels, beauties, or both, are the graces of his Chamber. And first, because my maine ayme, and scope is English Husbandry, I will begin with those flowers which are most proper, and naturall for our climate, of which because I hold *Roses* both for their smell, beauties, and wholsomnesse to exceed all other, I thinke it not amisse to give them the first place, and precedency before all other.

Of Roses.

You shall understand then that *Roses* are generally, and

and anciently but of three kinds, the Damaske, the red, and the white, and what are different from these are but derivations from them, being by grafting, replanting, and phisicking, somewhat altered eyther in colour, smell, or doublenesse of leafe.

To speake then first of the Damaske *Rose*, it is fit that all husbandmen know, that *Roses* may as well be sown from the seed, as planted from the root, Syen, or branch only, they are slower in coming up, more tender to nourish, and much longer in yeilding forth their flowers, yet for satisfaction sake, and where necessity urgeth, if of force or pleasure you must sow it from the seed, you shall chuse a ruffish earth, loose, and well dunged, and you shall cast up your beds high, and narrow: the moneth which is fit for their sowing is September, and they must be covered not aboue foure fingers deepe, they must be defended well all the winter from frosts, and stormes, and then they will beare their flowers plentifully all the next Spring following; yet this is to be noted, that all *Roses* which rise from the seed simply, their flowers will be single like the *Eglantine*, or *Cyphany*, therefore after your plants are two yeeres old, you must graft one into another, as you doe other fruit, and that will make them double, and thicke: you must remember that those yellow small seeds which are in the midst of the *Rose*, are not true *Rose*-seeds, but those which lie hid in the round peare knob under the *Rose*, which as soone as the leaves are fallen away, will open, and shew the seed. And thus much touching the sowing of all sorts of *Roses*, which is for experience, and knowledge sake only, for indeed the true use, and property of the *Rose* is to be planted in short slips about fourteene inches long, and the small tassels of the root cut away, they would be set halfe a foot into the ground, in the same manner as we set ordinary Quickset, and of like thicknesse, rather a little slope-wise than upright: and though some thinke March the best season; yet doubtlesse September is

Of the Damaske *Rose*,

much better for having the roote confirmed all the Winter, they will beare the sooner, and better all the Summer following; you must be carefull to plant them in faire weather, and as neere as you can under shelter as by the sides of walls, and such like covert where the Sunne may reflect against them, and if they bee planted on open beds or borders, then you must with Poales, and other necessities support, and hold them up, least the winde shake their roots, and hinder their growing.

Of the read
Rose.

The red *Rose* is not fully so tender as the Damaske, neyther is it so pleasant in smell, nor doubleth his leaves so often; yet it is much more Phisicall, and oftner used in medicine, it is likewise fitter to be planted then sowed, and the Earth in which it most ioeyeth would be a little rough or gravelly, and the best compasse you can lay unto it, is rubbish, or the sweeping of Houses, the moneths to sowe or plant it in is March or September, and the time to prune, and cut away the superfluous branches is ever the midst of October.

Of the white
Rose.

The white *Rose* is of lesse smell than the red, and will grow in a harder ground, his use is altogether in Phisicke, as for sore eyes, and such like: it will grow into a Tree of some bigge substance, and is seldome hurt with frosts, stormes, or blastings: it would likewise be planted from the roote against some high wall, eyther in the moneth of February or March, and the oftner you plant, and replant it, the doubler, and larger the Flower will bee: for the Earth it much skilleth not, because it will grow almost in every ground, only it delights most in the shadow, and would be seldome pruned, except you finde many dead branches.

Of the Cinnamon
Rose.

The *Cinnamon Rose*, is for the most part sowed, and not planted, whence it comes that you shall ever see the leaves single, and little, the delicacy thereof being only in the smell, which that you may have most fragrant, and

and strong, you shall take a vessell of Earth, being full of small holes in the bottome, and sides, and fill it with the richest Earth you can get, being made fine, and loose, then take Damasco *Rose* seeds which are hard, and sound, and steepe them foure, and twenty houres in *Cinamon*-water, I doe not meane the distilled water, but faire Conduit water, in which good store of *Cinamon* hath bin steeped, or boyled, or Milke, wherein good store of *Cinamon* hath bin dissolved, and then sow thole seeds into the Pot, and cover them almost three fingers deepe, then morning, and evening till they appeare above the Earth, water them with that water or Milke in which the seeds were steeped, then when they are sprung up a handfull or more above the ground, you shall take them up mould, and all, and having drest a border or bed for the purpose, plant them so as they may grow up against some warme wall or pale, and have the Sunne most part of the day shining upon them, and you shall be sure to have *Roses* growing on them, whole smell will be wonderfull pleasant, as if they had beene spiced with *Cinamon*, and the best season of sowing these is ever in March, at high noone day, the weather shining faire, and the winde most calme.

Now if you would have these *Roses* to grow double, To make the which is an Art yet hid from most Gardners, yet shall at *Cinamon Rose* Michaelmasse take the uppermost parts of the Plants grow double. from the first knot, and as you graft eyther Plumme or Apple, so graft one into another, and cover the heads with Earth or clay tempered with *Cinamon*-water, and they will not only grow double, but the smell will be much sweeter, and looke how oft you will graft, and regraft them, so much more double, and double they will prove.

The *Province Rose* is a delicate Flower for the eye Of the Prov more then the nose, for his oft grafting abateth his smell, vince *Rose*. but doubleth his lease so oft that it is wonderfull; there-fore

fore if you will have them large, and faire, you shall take the fairest *Damaske Roses* you can get, and graft them into the red *Rose*, and when they have shot out many branches, then you shall graft each severall branch againe with new grafts of another grafted *Damaske Rose*; and thus by grafting graft upon graft, you shall have as faire and well coloured *Province Roses*, as you can wish or desire; and thus you may doe eyther in the Spring or fall at your pleasure, but the fall of the leafe is ever held the best season.

To make *Roses* smell well. Now if your *Roses* chaunce to loose their smells, as it oft happeneth through these double graftings; you shall then plant *Garlicke-heads* at the roots of your *Roses*, and that will bring the pleasantnesse of their sent unto them againe.

Generall notes touching *Roses*. Now for your generall observations, you shall remember that it is good to water your *Roses* morning, and evening till they be gathered; you shall rather cover to plant your *Roses* in a dry ground than a wette; you shall give them much shelter, strong support, and fresh dung twise at the least every yeere, when the leafe is fallen, you shall cutte, and prune the branches, and when the buds appeare, you shall then begin your first watering.

Of *Lavender*. *Lavender* is a Flower of a hot smell, and is more esteemed of the plaine Country-house-wife then the dainty Citizen; it is very wholesome amongst linnen cloathes, and would be sown in a good rich mould, in the moneths of March or Aprill.

Of the white *Lilly*. The white *Lilly* would be sown in a fat Earth, in the moneths of October, and November, or in March or Aprill, and the seeds must be sown exceeding thine, not one by any meanes touching another, and the mould which covereth them must be sifted gently upon them.

To make *Lillies* of any colour. If you would have your *Lillies* of a purple colour, you shall sleepe your seeds in the Lees of red wine, and that

that will change their complexion, and also you shall water the Plants with the same Lees likewise: if you will have them scarlet-red, you shall put *Vermillion* or *Cynaber* betweene the rind, and the small heads growing about the root: if you would have the blew, you shall dissolve *Azure* or *Byse* betweene the rind, and the heads, if yellow *Orpment*, if Greene *Verdigrease*, and thus of any other colour.

Now to make them flourish every moneth in the yeere, you shall sow your seeds some a foot deepe, some halfe a foot, and some not two inches, so they will spring one after another, and flourish one after another.

The wood *Lilly* or *Lilly* of the vale, delighteth most in a moyst ground, and may be sown eyther in March or September, it is very faire to looke on, and not so suffocating in smell as the other *Lillies* are.

The flower *de Lise* is of excellent beauty, but not very pleasant to smell to, it loveth a dry ground, and an easie mon'd, and is fittest to be sown in the moneth of March.

Pionie or the blessed *Rose*, loveth a good fat earth being somewhat loose, and may be sown eyther in March or September, it asketh not much watering, only some support because the stalkes be weake.

Pettillins or *Indian eye*, may be sown in any ground, for it desireth neither much water, nor much dung, and the best season for sowing, it is June or September, for it will beare flowers commonly all the Winter.

Velvet flower loveth a rich fertile ground, and must be much watered: the season best for sowing is August, for commonly it will beare flowers all the Winter.

Gilliflowers are of divers kinds, as *Pinks*, *Wal-flowers*, *Carnations*, *Clove-Gilliflowers*, and a world of others, which are of all other flowers most sweet, and delicate: all but the *Wal-Gilliflower* love good fertile earths, and may be sown either in March, Iuly, or August. They are better to be planted of slips than sown,

yet both will prosper. They are very tender, and therefore the best planting of them is in earthen Pots, or halfe Tubes, which at your pleasure you may remove from the shade to the Sunne, and from the roughnesse of stormes to places of shelter, they grow up high on long slender stalkes, which you must defend, and support with square cradles made of stickes, least the winde, and the waight of the flowers breake them; these *Gilliflowers* you may make of any colour you please, in such sort as is shewed you for the colouring of *Lillies*, and if you please to have them of mixt colours you may also, by grafting of contrary colours one into another: and you may with as great ease graft the *Gilliflowers* as any fruit whatsoever, by the joyning of the knots one into another, and then wrapping them about with a litte soft sleav'd filke, and covering the place close with soft red Wax well tempered. And you shall understand that the grafting of *Gilliflowers* maketh them exceeding great, double, and most orient of colour.

Of grafting of
Gilliflowers.

Of the smells
of *Gilliflowers*.

Now if you will have your *Gilliflowers* of divers smells or odours, you may also with great ease, as thus for example: if you will take two or three great Cloves, and steepe them foure, and twenty houres in Damaske *Rose* water, then take them out, and bruise them, and put them into a fine Cambricke, ragge, and so binde them about the heart root of the *Gilliflower*, neere to the setting on of the stalke, and so plant it in a fine, soft, and fertile mould, and the Flower which springeth from the same, will have so delicate a mixt smell of the Clove, and the *Rose*-water, that it will breede both delight, and wonder. If in the same manner you take a stick of *Cinamon*, and steepe it in *Rose*-water, and then bruise it, and binde it as afore-said, all the Flowers will smell strongly of *Cinamon*: if you take two graines of fat Muske, and mixe it with two drops of Damaske *Rose*-water, and binde it as afore-said, the Flowers will smell strongly

strongly of Muske, yet not too hot nor offensive, by reason of the correction of the *Rose-water*; and in this sort you may doe either with *Amber-greece*, *Storax*, *Beniamin* or any other sweet drugge whatsoever; and if in any of these confections before named, you steepe the seeds of your *Gillsflowers* foure and twenty houres before you sowe them, they will take the same smells in which you steepe them, only they will not be so large or double, as those which are replanted or grafted.

Now for your *Wall Gilliflower*, it delighteth in hard Of the wall
rubbish, limy, and stony grounds, whence it commeth *Gilliflower*.
that they covet most to grow upon walls, pavements, & such like barraine places. It may be sown in any moneth or season, for it is a seede of that hardnesse, that it makes no difference betwixt Winter, and Summer, but will flourish in both equally, and beareth his Flowers all the yeere, whence it comes that the Husbandman preserves it most in his Bee garden; for it is wondrous sweet, and affordeth much honey. It would be sown in very small quantity, for after it hath once taken roote, it will naturally of it selfe over-spread much ground, and hardly ever after be rooted out. It is of it selfe of so exceeding a strong, and sweet smell, that it cannot be forced to take, any other, and therefore is ever preserved in its owne nature.

The *Helytropic* or Flower of the Sunne, is in nature, Of the Hely-
and colour like our English *Marigold*, only it is excee- *tropic*,
ding huge in compasse, for many of them will be twenty, and foure and twenty inches in compasse, according to the fertilenesse of the soyle in which they grow, and by oft replanting of their roots, they are exceeding goodly to looke on, and pleasant to smell, they open their Flowers at the rising of the Sunne, and close them againe at the Sunne setting, it delighteth in any soyle which is fertile eyther by Art or Nature, and may be sown in any moneth from February till September, the oft planting, and replanting of the roote after it

is sprung a handfull from the Earth, maketh it grow to the uttermost bignesse, it would have the East, and West open upon it, only some small Pent-House to keepe the sharpnesse of the winde from it.

Of the Crowne
Imperiall.

The *Crowne Imperiall*, is of all Flowers both Forraigne and home bred. the delicatest, and strangest: it hath the true shape of an *Imperiall Crowne*, and will be of divers colours, according to the Art of the Gardener. In the middest of the Flower you shall see a round Pearle stand, in proportion, colour, and orientnesse, like a true naturall Pearle, only it is of a soft liquid substance: This Pearle if you shake the Flower never so violently will not fall off, neyther if you let it continue never so long, will it eyther encrease or diminish in the bignesse, but remaineth all one: yet if with your finger you take, and wipe it away, in lesse than an houre after you shall have another arise in the same place, and of the same bignesse. This Pearle if you taste it upon your tongue, is pleasant, and sweet like Honey: this Flower when the Sunne ariseth, you shall see it looke directly to the East, with the stalke bent lowe there-unto, and as the Sunne ariseth higher and higher, so the Flower will likewise ascend, and when the Sunne is come into the *Meridian* or noone poynt, which is directly over it, then will it stand upright upon the stalke, and looke directly upward, and as the Sunne declineth, so will it likewise decline, & at the Sunne setting looke directly to the West only. The seeds of this Flower are very tender, and therefore would be carefully sowne in a very rich, and fertile Earth well broken, and menured. The seasons most meete for the same, is the latter end of March, Aprill, or May, for the Flowers flourish most in May, Iune, and Iuly. As soone as it is sprung a handfull above the Earth; you shall remove it into a fresh mould, and that will make it flourish the braver; the roote of this Flower is like an Apple, or great flat *Onion*, and therefore in the replanting of it, you must be carefull to make

make a hole large, and fite for the same, and to fixe the mould gently, and close about the same. In the Winter it shrinketh into the Earth, and is hardly or not at all discerned, by meanes whereof I have scene divers supposing it to be dead, to digge vp the Earth, and negligently spoyle the roote, but be not you of that opinion, and in the Spring you shall see it arise, and flourish brayely.

The *Dulippo* is but a little short of the *Crowne* Of the *Du-Emperiall* in pleasantnesse, and rarenesse, for you may *lippo*. have them of all colours whatsoever, in such sort as was shewed you for the *Lillies*, *Gilliflowers*, and other roots: they are tender at their first springing from the seede, and therefore must be sown in a finerich mould, in the warmth of the Sunne, eyther in March, Aprill, or May; but after they are once sprung above the ground, they are reasonable hard, and will defend themselves against most weathers: the roote of this Flower is shaped like a Peare, with the biggest end downeward, and many small threeds at the bottome; therefore you must be sure when you remoove or replant it, to cover all the roote in fresh mould, and let not any part of the white thereof bee uncovered: this Flower by monethly replanting, you may have to flourish in all the Summer moneths of the yeere, for in the dead of Winter it shrinketh into the ground, and is hardly or not at all perceived, the stalkes of these flowers are weake, therefore to support them, and defend them from the shakings of the windes with little square frames of stickes, will be very good, and necessary, it must be oft watred.

The *Hyacith* is a Flower more delicate to the eye ^{or the Hyac.} than nose, and is of a good strong nature, for it will endure any reasonable Earth, and may be sown in any moneth of the Spring, from the beginning of February till midde Iune: it only hateth tempests, and stormes, and therefore is commonly sown or planted neere unto

walls or other shelter. You may have them of any colour you please, as is shewed before of other flowers, and in this alteration or mixture of colours their greatest glory appeareth, they will flourish all the Summer long; and if they stand warme, appeare very early in the Spring.

Of *Narcissus*.

The *Narcissus* is a very curious, and dainty flower, and through his much variety, and alteration in growing, they are supposed to be of divers kinds, but it is not so; for in as much as they are seene to be of divers colours, that is but the Art of the Gardener, as is before expressed in other flowers, and whereas some of them grow single, some double, and some double upon double, you shall understand that such as grow single, grow simply from the seed only, those which are double, and no more are such as have beene planted, and replanted, the small threds of the roots being clipt away, and nothing left about it that is superfluous, and those which are double upon double, are the double plants grafted one into another. This *Narcissus* loveth a rich warme soyle, the mould being easie, and light, it may be sowne in any moneth of the Spring, and will flourish all the Summer after. Before it appeare above ground it would be oft watred, but after it skills not how little, for it will defend it selfe sufficiently.

Of the *Daffadill*, *Colombine*, and *Chesbole*.

Not unlike unto this is your *Daffadill* of all kinds, and colours, and in the same earths, and seasons delighteth either to be sowne or planted, and will in the same manner as your *Narcissus* double, and redouble his leaves; so will your *Colombine*, your *Chesbole*, and almost any hollow flower whatsoever. Many other forraigne flowers there are which grow plentifully in our Kingdome: but the ordning of their planting, and sowing differeth nothing from these which I have already declared, being the most tender, and curious of all other, therefore I will end this Chapter with this one caution only, that when you shall receive any seed from

An excellent
caution.

from any forraine Nation, you shall learne as neere as you can the nature of the Soyle from whence it cometh as hot, moyst, cold, or dry it is, and then comparing it with ours, sow it as neere as you can in the earth, and is the seasons that are neerest to the soyle from whence it came, as thus for example: if it came from a clime much hotter than ours, then shall you sow it in sandy mould or other mould made warme by strength of measure, in the warmest time of the day, and in those moneths of the Spring, which are warmest, as Aprill or May, you shall let it have the Sunne freely all the day, and at night, with Mats, Penthouse, or other defence, shield it from sharpe winds, frosts, or cold dewes.

I have seene divers Noblemen, and Gentlemen, which have beene very curious in these dainty flowers, which have made large frames of wood with boards of twenty inches deepe, standing upon little round wheelles of wood, which being made square or round according to the Masters fancy, they have filled with choyce earth, such as is most proper to the flower they would have grow, and then in them sow their seeds, or fixe their Plants in such sort, as hath beene before described, and so placing them in such open places of the Garden, where they may have the strength, and violence of the Sunnes heat all the day, and the comfort of such moderate showers, as fall without violence or extraordinary beating, and at night draw them by mans strength into some low vaulted gallery joyning upon the Garden, where they may stand warme, and safe from stormes, winds, frosts, dewes, blastings, and other mischiefs which ever happen in the Sunnes absence, and in this manner you may not only have all manner of dainty out-landish flowers, but also all sorts of the most delicatest fruits that may be, as the *Orenge, Limon, Pomgranate, Poncythron, Cinamon-tree, Olive, Almond*, or any other, from what clime soever it be derived, observing only to make your frames of wood, which con-

A new manner
of planting
flowers, and
fruits.

taines

taines your earth, but deeper, and larger, according to the fruit you plant in it, and that your Alleys through which you draw your Trees when you house them be smooth, and leuell, least being rough, and uneven, you jogge and shake the roots with the waight of the Trees, which is dangerous. And least any man may imagine this but an imaginary supposition, I can assure him that within seven miles of *London*, the experiment is to be seene, where all these fruits, and flowers with a world of others grow in two Gardens most abundantly. Now for such flowers or fruits as shall be brought from a colder or more barren ground than our ewne, there needeth not much curiosity in the plantation of them, because a better ever bringeth forth a better encrease, only I would wish you to obserue, to give all fruits or flowers the uttermost liberty of the weather, and rather to adde coolenes by shadow, than encrease any warmth by reflection, as also to augment showers by artificiall watrings, rather then to let the root dry for want of continuall moysture, many other notes, and observations there are, which to discover, would aske a volume larger than I intend, and yet not to be more in true substance, than this which is already writ, if the Reader have but so much mother-wit, as by comparing things together, to draw the uses from the true reasons, and to shun contrary by contraries, which what Husbandman is so simple but he can easily performe, and having the true grounds of experience, frame his descant according to his owne fancy, which is a musicke best pleasing to all men, since it is not in any one mans power to give a generall contentment. And thus much for flowers, and their generall, and particular ording.

CHAP. 6.

How to preserve all manner of seeds, hearbs, flowers, and fruits, from all manner of noysome, and pestilent things which devoure, and hurt them.

IT is not enough to bequeath, and give your seeds unto the ground, and then immediately to expect (without any farther industry) the fruit of your labours, no goodnesse seldome commeth with such ease: you must therefore know, that when you lay your seeds in the ground, they are like so many good men amongst a world of wicked ones, and as it were invironed, and begirt with maine Armies of enemies, from which if your care, and diligence doe not defend them; the most, if not all, will doubtlesse perish, and of these enemies the worst, and most violentest is *Thunder*, and *Lightning*, which in a moment killeth all sorts of Flowers, Plants, and Trees, even in the height, and pride of their flourishing, which to prevent, it hath beene the practise of all the ancient Gardners, to plant against the walles of their Gardens, or in the midst of their quarters, where their choyselt flowers grow, the *Laurell* or *Bay Tree*, which is ever held a defence against those strikings. Of thunder, and lightning.

Next unto *Thunder*, and *Lightning*, are *Caterpillers*, Of caterpillers. which are a kinde of filthy little wormes, which lye in Cobwebs about the leaves, devouring them, and poysoning the sap, in such sort, that the Plant dieth speedily after: the way to kill these, is to take strong Urine, and Ashes mixt together, and with it to dash, and sprinkle all the Plants cleane over, and it will both prevent their breeding, or being bread will kill them: the smoake of Brimstone will doe the like, yet if they be exceeding much abundant, the surest way to destroy them is to take old rotten mouldy hay, and setting it on
F fire,

fire, with the blaze thereof burne the Cob-webs, and then with the smoake smother, and kill the wormes, and they will hardly ever breede in that place againe.

Of Toades, and
Frogges.

Next these are *Toades*, and *Frogges* which are very poysonous, and great destroyers of young Plants, chiefly in their first appearing above the ground, and the auncient Gardners have used to destroy them by burning the fat of a Stagge in some part of the Garden beds, from which Earth all creatures that have poyson in them, will flye with all violence: other Gardners will watch where the Kite pearcheth on nights, and gathering up her dung, scatter it upon the beds eyther simply, or mixt with the shavings of an olde Harts-horne, and no venomous thing will come neere it.

Of the field
Myce.

Next these are field *Myce*, which will roote seeds out of the Earth, and devour them abundantly, which to kill, you shall take *Herbane-seeds*, and beate it to poulder, and then mixing it with sweet Oyle, fresh Butter, or Grease, make therof a bayte, and when you finde where they scratch or roote, lay some part of the bayte in that place, and they will greedily eate it, and it will kill them: there be other Gardners which will take a Weefell, and burning it to ashes, scatter the ashes on the beds, and then no field *Mouse* will come neere unto them.

Of Fly's.

Next these are *Flyes*, as flesh-*Flyes*, *Scarabs*, *Hornets*, *Dores*, and such like, which are great destroyers of Seeds, and Plants, when they appeare in their first lease, and are soft, and tender, which to destroy, you shall eyther take *Orpment* mixt with Milke, or the poulder of *Allome*, or the ashes of any of these *Flyes* burnt, and with it sprinkle your beds, and young plants all over, and it will keepe *Flyes* that they will not dare to come neere them.

Of the Greene
Flye.

If the Greene *Fly*, which of all other *Flyes* is most greedy to hurt Seeds, and Plants, doe offend your Garden, you

you shall take *Henbane* leaves, *Houfeloake*, and *Mints*, and beat them in a Morter, then straine forth the juyce, and then adde thereto as much Vinegar as was of all the rest, and there-with sprinkle your beds all over, and the geene *Fly* will never come neere them. Some hold opinion, that if you plant the hearbe *Rocket* in your Garden that it is a safe preservative against these greene *Flyes*, for it is most certaine that the very smell thereof will kill these, and most sorts of all other *Flyes* whatsoever, as hath beene found by approved experience, and the sylts of old ancient Abby Gardens, which a man shall seldome finde without this hearbe planted in them.

Next these are *Gnats*, which although it bee the smallest of all *Flyes*, yet it is the greatest, quickest, and sharpest devourer of tender Plants of all other, for it biteth deeper, and more venomously sharpe, then those which are of much bigger substance; the best way to destroy them is morning, and evening, wth smoake, and perfume your beds eyther with wet *Rosemary*, or with mountdy *Hay*: some use to burne *Calamint*, and some Oxe dung, and sure all are very good, for the smokes are very sharpe, and styfle as soone as it is received.

Of Gnats.

Next these are *Pismyrs*, which also are very noysome unto Gardens, for they will digge up, and carry away the smaller seeds to their hills, and in short space spoyle, and deface a bed of his encrease, and the best way to destroy them, is, if you find their hill, to power hot scalding water upon them; or if upon your Garden beds you strow Ashes or Lyme, but especially that which is made of chalke, they will by no meanes come neere them, as you shall finde by experience.

Of pismyrs.

Next these are *Moles*, which digging, and undermining the Earth, turneth up Seeds, and Plants in a confused fashon, to the utter destruction, and ruine of the Husband-mans labour, the cure whereof is

Of Moles.

to take them in such sort, as shall be shewed in this Booke, where I speake of Pasture grounds; but if you finde that their encrease, and continuance multiply with your labour, it shall be then good for you to plant in divers places of your Garden the Hearbe called *Palma christi*, in other places *Garlike*, and in other places *Onions*, and it is an assured rule that no *Moles* will come neere, where they grow, for the strength, and violence of their smell, is poysonous, and deadly to those blinde vermines.

Of *Snailles*,

Next these are *Snailles* of both kinds, blacke, and white, which are as much offensive to Gardens, as any other crawling thing, for they feede of the tender leaves of plants, and of the outmost rindes of the daintiest Hearbs, or Flowers, the way to destroy them, is to sprinkle upon the beds, and other places of their aboad good store of chimney soote, which by no means they can endure, because it is mortall, and poysonous.

Of *Moths*,

Next these are *Moths*, or *Mouglies*, which are very pernicious in a Garden, for they destroy both Seeds, and Plants, and there is no better or more certaine way to kill them, then by taking old horse hooves, and burning them, with the smoake thereof to perfume all the places where they abide, and it will in an instant kill them; with this smoake only you may keepe Arras hanging, Tapisstry, Needle-worke, Cushions, or Carpets, or any woollen cloath, or garment what soever safe from *Moths* as long as you please, neyther neede you to use it above once or twice a yere at the most, as shall be more at large in another place declared.

Of *Cankers*,

Next these are *Cankers*, which are a kinde of filthy wormes, which devoure both the great, and small leaves of all sorts of sweete Plants, especially *Lettuce*, *Cabbage*, *Coltsflowres*, and such like, and the way to destroy them, is to scatter amongst your Plant, Goose-dung, or to sprinkle the juyce thereof with a wispe of *Rue*

or Hearbe of *Grace* over all the beds, and though some with a rusty knife use to scrape them from the leaves, and so kill them on a Tyle-shread, yet for my part I hold this the neerer way, and both more certaine, and more easie, as experience will approve.

Lastly, doe your Garden *Wormes* which living in the hollowes of the Earth feede much upon your tender Garden seeds, and the soft sprouts which first issue from them, especially from all sorts of kirkels, in which they delight more then in any other feede whatsoever, as you may finde by experience, if you please to observe accidents as they happen, without which observation you shall hardly attaine to the perfection of an excellent Gardener: for if you please to make this triall, take the kirkels of a faire sound Pippin, and divide them into two parts, then sow the one halfe in a Garden-bed well drest, and trimmed for the purpose, where the worme hath liberty to come; and goe at his pleasure, sowe the other halfe in some riven Boule, earthen Pot, or halfe Tub, made for the purpose with the same Earth or mould that the bed is, and then set the vessell so as no worme may come thereunto, and you shall finde that all those Seeds will sprout, and come forth, when hardly any one of those in the bed of Earth will or can prosper, there being no other reason but the extreame greedinesse of the devouring worme, which to prevent, you shall take Oxe-dung, and burne it to ashes, then mixe them with the earth where with you cover your Seeds, and it will both kill the wormes, and make the Seeds sprout both sooner, and safer. And thus much for the preservation of Seeds, and Plants, from all noysome, and pestilent creatures, which being practised with care, and diligence, will give unto every honest minde the satisfaction he desireth.

An excellent
experiment.

Now to conclude this small tract, or Treatise of the Husbandmans *Kitchen Garden*, I would have every honest Reader understand, that I have not taken upon

The conclusion
of the Kitchen
Garden

me to modell out any curious shape or proportion, but only figured out a perfect nourse, shewing you how to breed, and bring up all things fit for health or recreation, which being once brought to mature, and ripe age, you may dispose into those proper places which may become their worthinesse, in which worke I would have your owne fancy your owne direction, for I may give preheminance to that you least like, and disesteeme that most which to you may seeme most worthy, therefore let your owne judgment order your Garden, like your house, and your hearbs like your furniture, placing the best in the best places, and such as are most conspicuous, and the rest according to their dignities in more inferiour roomes, remembering that your galleries, great chambers, and lodgings of state do deserve Arras, your Hall, Wainscote, and your meanest offices some *Bes-cage*, or cleanly painting; from this alligory if you can draw any wit, you may find without my farther instruction how to frame Gardens of all sorts to your owne contentment.

THE



THE SECOND Part of the second

Booke of the *English Husband-*

man: Contayning the ordning of all sorts of
Woods, and plashing of hedges, ordning of
pastures, and the curing of Cattels diseases.

CHAP. I.

*Of the beginning of Woods, first sowing, and necessary
use.*



T is a Maxime held in Plantations, that
no land is habitable, which hath not
Wood, and Water, they two being as
it were the only nerves, and strength
of a mans safe, and wholsome living,
and I have heard many wise Gen-
tlemen, exercised, and engaged, in the
most noble, and ever laudable workes of our new Plan-
tations, both of *Virginia*, and the *Summer-Islands* affir-
me, that they had rather, for a generall profit, have
a fertile wholsome land, with much wood, than (want-
ing wood) with a Mine of gold: so infinite great is
the use of Timber (whose particulars I need not re-
hearse) and so insufferable is the want, when we are
any

Wood better
than Gold.

any way pinched with the same. And hence it springeth that our old ancestors (whose vertues would God we would in some small measure imitate) when they found any hard, and barren earth, such as was unapt for grasse, or at least such as bare but grasse that would keepe life, not comfort life, they presently plowed it up, and sowed thereon Acornes, Ash-keyes, Maple-knots, Beech-apples, Hawes, Slowes, Nuts, Bullis, and all other seeds of Trees in innumerable quantity, as may appeare by the Forrests of *Del la mere*, *Sherwood*, *Kings wood*, and many other within this Kingdome of huge great spaciousnesse, and compasse, from whom when the wood is spoyled, the soyle serveth to little or no purpose, except it be the keeping alive of a few poore sheepe; which yeild but little profit more than their carcasse. Thus even from the first age of the world hath our forefathers beene ever most carefull to preserve, and encrease wood, and for mine owne part I have ever observed in all those places where I have seene Woods decayed, and destroyed, that the charge of stubbing, and other necessities allowed; those lands have never againe yeilded the former profit, for the greatest exhaustion that ever I saw of Wood ground was to bring it to ten shillings an Acre when it was converted to pasture, and being kept to wood it was worth every seaventeenth yeere one and twenty pound. A simple Auditor may cast the account of this profit, but such is our greedinesse, that for our instant use we little respect the good of ours, or our neighbours: But it is no part of my bookes method, all offences to question, but only, to right the Husbandman in his journey to ordinary profit. Know then that there is nothing more profitable to the Husbandman, than the encreasing, and nourishing of wood; from whence (as our common lawes tearme it) springs these three bootes or necessary commodities, to wit House-boote, Plow-boote, and Fire-boote, without the first we have neither health, covert, ease, nor safety from

The excellent
use of Wood.

from savage beasts: without the second we cannot have the fruits of the earth, nor sustenance for our bodies, nor without the last can we defend off the sharpe Winters, or maintaine life against the numbing colds which would confound us. The consideration of these three things only, might enduce us to the preservation of this most excellent commodity: but the other infinit necessities, and uses which we make of Wood, as Shipping, by which we make our selves Lords of the Seas: fencing which is the bond of concord amongst neighbours: solution, and tryall of Mines, from whence springs both our glory in peace, and our strength in warre, with a world of others suitable unto them, should be motives unresistable to make vs with all diligence hast to the most praise-worthy labour of planting Wood, in every place, and corner, where it may any way conveniently be received.

If then the Husbandman shall live in a high barren The Plantation of Wood. Country (for low-valleies, marshes, or such grounds as are subject to inundations, seldome now with Wood well) or in a soyle though not utterly barren, yet of to hard, and slower encrease, that the hearbage doth in them profit but in small quantity, I would wish him after a generall tryall of his earth, to divide it into three equall parts, the first, and fruitfullest I would have him preserve for pasture for his Cattell of all kinds: the second, and next in fertility for Corne, being no more then those Cattell may till, and the last, and most barren to imploy for Wood: which though he stay long for the profit yet will pay the interest double. And this ground thus chosen for wood, I would have him plow up from the swarth about the latter end of February, and if it be light earth, as eyther sand, gravell, or a mixt hazell earth, then immediately to sow it with Acornes, Ash-Keyes, Elme, and Maple knots, Beech-apples, Chestnuts, Cervisses, Crabs, Peares, Nuts of all kinds, Hawes, Hips, Bullice, Slowes, and all manner of other Wood-seeds

whatsoever, and as soone as they are sowne, with strong Oxeharrowes of iron, to harrow, and breake the Earth, in such sort, that they may be close, and safely covered. And in the plowing of this Earth, you must diligently obserue to turne up your furrowes as deepe as is possible, that the seedetaking strong, and deepe roote, may the better, and with more safety encrease and defend it selfe against stormes and tempests, whereas if the roote be but weakely fixed, the smallest blasts will shake the Trees, and make them crooked; wrythen, and for small use but fire only.

The fenceing
of young
Woods.

After you have harrowed your Earth, and laide your seede safe, you shall fence your ground about with a strong, and large fence, as hedge, ditch, pale, or such like, which may keepe out all manner of foure-footed beafts, for comming within the same, for the space of ten yeeres after: for you shall understand, that if any cattell shall come where young wood is peeping above the Earth, or whilst it is young, tender, and soft, they will naturally crop, and browse upon the same, and then be sure that the wood which is so bitten, will never prosper or spring up to any height, but turne to bushy shrubs & ill-fauoured tuis pestring the ground without any hope of profit; whereas if it be defended, and kept safe the space of ten yeeres at the least, it will after defend it selfe, and prosper in despite of any iniury: and then after that date you may safely turne your cattell into the same, and let them graze at pleasure, and surely you shall finde it a great reliefe for your young beafts, as your yearling-Haiffers, Bullocks, Colts, Filhes, and such like: for I would not wish you to let any elder Cattell come within the same, because the grasse though it be long, yet it is sower, and scowring, and by that meanes will make your Cattell for labour weake, and unhealthy, whether it be Ox or Horse, and for milch-Kine, it will instantly dry up their milke, but for idle heilding beafts, whose profit is comming after, it will serue sufficiently.

When cattell
may graze in
Springs.

Now

Now if the Earth whereon you sowe your wood, be a stiffe clay ground, and only barraine through the extremity of cold, wet, or such like, as is seene in daily experience: you shall then plow up the ground at the end of Ianuary in deepe furröwes, as is before rehearsed; and then let it rest till it have received two or three good Frosts, then after those Frosts some wet, as eyther Snow or Raine, and then the next faire season after sowe it, as afore-said, and harrow it, and you shall see the mould breake, and cover most kindly, which without this baite, and order, it would not doe, then fence it as afore-said, and preferue it from Cattell for tenne yeeres after.

The use of the
clay ground
for Wood.

And here is to be noted that one Oake growing upon a clay ground is worth any five which grows upon the sand, for it is more hard, more tough, and of much longer indurance, not so apt to teare, rive, or consume, eyther with Lyme, Rubbish, or any casuall moyisture; whence it comes that ever your Ship-wrights or Mill-wrights desire the clay Oake for their use, and the Ioyner the sand Oake for smoothnesse, and waynscote. And thus much for the sowing of Wood, and his generall uses.

A speciall note.

CHAP. 2.

The division of under-Woods, their sale, and profit.



Whoever be a Lord or Master of much under-wood, which is indeede young spring-wood of all kinds, growing thicke, and close together, eyther from the seede, as is declared in the former Chapter, or from the roots of former sales, the first being a profit begotten by himselfe, the other a right left by purchase or inheritance, and desire, as it is the duty of every vertuous husband, to make his best, and most lawfulllest profit thereof, having

The devisi-
on
of Woods.

The valew of
under-wood.

Of the sale of
under-wood.

not left unto him any president of former commodity. In this case you shall survey the whole circuit of your wood, with every corner, and angle there unto belonging, and then as your ability, and the quantity of your ground shall afford, you shall devide your whole wood eyther into twelue, seventeene, or one, and twenty parts of equall Acres, Roods, or Rods, and every yeere you shall sell or take to your owne use one of those parts, so that one following yeerely after another, our sales may continue time out of mind, and you shall employ as you please so much wood every yeere of eyther twelue, seaventeene, or one and twenty yeeres growth. And in this you shall note that the sale of one and twenty, doth farre exceede that of seventeene, and that of seventeene as farre that of twelue: but in this it is quantity, and your necessity that must direct you, and not my demonstration: for there be few Husbands but know that an Acre of one, and twenty yeeres growth, may bee worth twenty, nay thirty pounds, that of seventeene worth eight or ten pounds, and that of twelue, five and sixe pounds, according to the goodnesse of the wood, insomuch that the longer a man is able to stay, the greater sure is his profit: but fewell, and fence must of necessity be bad, and if a man have but twelue acres of wood, I see not but he must be forced to take every yeere one acre for his owne reliefe, and if he take more, he must either necessarily spoyle all, or drive himselfe into extream want in few yeeres following: and therefore it is meete that every good husband shape his garment according to his cloth, and only take plenty where plenty is; yet with this husbandly caution that ever the elder your sale is, the richer it is, as you may perceive by the well husbanded Woods of many Bishoprickes in this Land, which are not cut but at thirty yeeres growth.

When you have made your devisi-
ons according to
your quantity, you shall begin your sale at an out-side
where

where carriages may enter without impeachment to the springs you intend not to cut; and a pole or halfe pole according to the quantity of ground, you shall preferue (being next of all to the outmost fence) to repaire the ring-fences of your Wood, and to separate the new sale from the standing Wood: and this amongst Woodwards is called *Flash-pole*. Then at the latter end of Ianuary you may begin to cut downe your under-wood, and sell it eyther by acres, roodes, perches, poles, roddees, or dozens, according to the quantity of your Earth, or the ability of your buyers. And in this sale I cannot set you downe any certaine price, because true judgment, and the goodnesse of your wood must only give you direction, things being over valewed according to their worth, and substance, and this sale or the cutting downe of under-wood, you may continue from the latter end of Ianuary, till midde Aprill, at which time the lease begins to bud forth, or somewhat longer if necessity urge you; the like you may also doe from the beginning of September, at which time the Lease beginnes to shed till the middest of November.

Now for the manner of cutting downe your under-woods, although the Lawes of the Kingdome shew you what duty you shall performe therein, what Timber you shall preferue, and how neere each Weaner shall stand one to another, yet I would wish you both for your owne, and the Common-wealths sake to performe some, what more than that to which you are by Law compelled, and therefore you shall give direction to your wood-fallers, that when they shall meete with any faire, and straight well growne sapling, Oake, Elme, Ash, or such like, to preferue them, and let them stand still, being of such fit distance one from another, that they may not hinder or trouble each other in their growing, and when you shall finde upon a cluster many faire Plants or Saplings; you shall view which is the fairest of them

How to cut
under-woods.

all, and it preserve on'y, and the rest cut away that it may prosper the better: also if you finde any faire, and well growne fruit, Trees, as Peares, Chestnuts, Servisses, and such like, you shall let them stand, and cleare them from the droppings of the taller trees; and you shall finde the profit make you recompence. Now for the generall cutting up of the wood, you shall cut it about sixe inches above the ground, and drawing your strokes upward, cut the wood slope wise, for that is best to hasten on the new Spring; and those Weaners or young which you preserve, and suffer to grow still, you shall prune, and trimme as you passe by them, cutting away all superfluous branches, twiggs, and young tyers, which shall grow eyther neere unto the root, or upon any part of the boale, which is fit to be preserved for Timber, and if you shall finde that the earth have by any casualty forsaken the root, and left it bare, which is hurtfull to the growth of the Tree, you shall lay fresh earth unto it, and ram the same hard, and fast about it.

The fencing
of sales.

Thus when you have made an end of cutting downe your sale, and that the wood is cleansed, and carryed away, and all the boole, and scattered sticks raked up into severall heapes, and carryed awy also, for it is the part of every good husband, and Woodward, not to see any wood lye, and rot upon the ground: you shall then with the underwood preserved in the Plash-pole, devide by a strong hedge this new cut downe sale from the other elder growne wood, and for ten yeeres, as before is spoken, not suffer any foure-footed beasts to come within the same; from which rule you shall learne this lesson; that it is the Woodward's duty every day to looke over all his young Springs, and if by any mischance or negligence Cattell shall happen to breake into them (as many times they doe) then shall he not only drive forth or impound such Cattell, but also suruay how farre, and which Plants they have cropt, and ha-

The wood-
wards duty.

ving

ving spied them, with his wood Bill, presently cut the Plants so bronzed close by the bottomes of the last shuts, and then they will newly put forth againe, as well as if they had never bin hindred: which done, he shall finde out where the Cattell brake in, and then mend the same, so well, and sufficiently, that it may prevent the like mischiefe. Also if these young springs shall stand neere, unto Forrests or elder Woods; which are full of wilde Deare, and be no purleues belonging unto the same, the Woodward then shall never walke without a little dogge following him, with which he shall chase such Deare out of his young Springs, because it is to be understood, that the browsing of Deare is as hurtfull to young wood, as that of any other Cattell whatsoever. And thus much touching the ordning, and government of under-woods, with their sales, and the nourishing up of greater Timber.

CHAP. 3.

Of High Woods, and their Plantation.

High Woods are those which containe only Trees for Timber, and are not pe-
 fired or imbraced with the under growth
 of small brush Wood, such as Hazels,
 white Thorne, Sallows, and Poplar are;
 these for the most part consist of Oakes,
 Ash, Elme, Beech, Maple, and such like, growing so re-
 mote, and separate one from another, that although
 their tops, and branches meete, and as it were infold
 one within another, yet at the roots a man may walke
 or ride about them without trouble. These high Woods
 had their first beginnings from the seed, as was before
 declared, and nourish from age to age amongst the
 under-woods, which, when men began to want food
 for their breed-Cattell, and that from the super abun-
 dance

What high
Woods are.

The begin-
ning of high
Woods.

dance of young Woods, they found some might conveniently be spared, they forthwith instead of cutting downe their young Wood about the earth, began to digge it up by the roots, and with stub Axes to teare the maine sinewes from the ground, so that it might not renew or encrease againe, and then levelling the earth, and laying it smooth, and plaine, to leave nothing standing but the talle timber Trees, betweene which the grasse had more liberty to grow, and Cattell more abundance to feed on, and all be not so long, and well able to fill the mouth, as that which grows in the thicke springs, yet much more sweet, and better able to nourish any thing that shall grasse upon the same, by reason that the Sunne, and Frosts having more free power to enter into the ground, the earth is so much the better seasoned, and bringeth forth her encrease with more sweetnesse.

The Plantation
of high
Woods.

Some are of opinion, that these high Woods may as well be planted as sowed, and that many of them from the first beginning have beene so, to which opinion I consent in part: for doubtlesse I am perswaded, that many small Groves of Ash, Elme, Beech, and Poplar have beene planted, for we see in our daily experience, and the new walkes in *Mare fields* by *London*, are a perfect testimony, that such Plantations may be without trouble or danger; but for the Oake to be taken up, and replanted, is very hard, and very seldome in use, neither shall a man in an whole age see any Oake removed come to perfection or goodnesse, but grow crooked, knotty, and at the best, but for the use of fewell only: but for the other before rehearsed, you may remove them when they are a dozen yeeres of age, and plant them where you please: and if the earth have in it any goodnesse at all, they will take root, and grow both speedily, and plentifully. And since I am thus farre entred into the plantation of Woods, I will shew you how you shall plant, and remove every Tree in his due manner, and season.

And

And first for the planting of the Elme, which is an excellent Tree for shadow, and the adorning of walkes or dwelling houses, you shall make choyce of those Plants which are straightest, soundest, the barke even, and untwound, and at least eightene or twenty inches in compasse: these you shall digge out of the ground, root, and all, then at the top of the head, about three fingers under the knot, where the maine armes severally issue forth, you shall a little slope-wise cut the head cleane off them, and mixing clay, and a little horse-dung, or fine ashes together, cover the head round about therewith, then over the same wrap Mosse, or fine Hay, and binde it about with soft cloven Oziers, or some such like bands, then with a sharpe pruning Bill cut euery severall branch of the root within a finger or two of the stocke: which done, and the root pickt cleane, you shall make a hole to be digged in the place, where you meane to plant the Elme just of that depth, the hole was from whence you digged out the Elme, that so much, and no more of the Elme may be hidden in the earth, then was formerly at his removing; and this hole you shall make spacious, and easie, and that the mould be soft, and loose both underneath, and round about the root of the Elme, which done, you shall place your Elme in the same, straight, and upright, without eyther swaruing one way or other, which for your better certainty, you may prove eyther with plumbe, leuell, or other instrument, which being perfected, you shall with rich fresh mould well mixt with old manure, cover, and ram the same fast in the earth, in such sort, that no reasonable strength may move or shake it: and all this worke must be done in the increase of the Moone, eyther in the moneth of October, or the latter end of Ianuary: but the latter end of Ianuary is ever held the best, and safest, for there is no question but you shall see flourishing Trees the next Summer after: and in this sort you may like-

The Planting
of Elme.

wise remove eyther Beech, Witche, or Popler, bestowing them eyther in Groves, Walkes, Hedgerowes, or other places of shadow, as shall seeme best to your contentment: for their natures being alike, their growths, and flourishing have little difference,

Of planting
the Ash.

Now for the replanting or removing the Ash, though not much, yet there is some difference, for it is not at the first so speedy a putter forth, and flourisher, as the others be: but for the first yeere labourer more to bestow, and fixe his root in the earth, then to spread forth his upper branches, and although some Woodwards are of opinion, that so much as the Ash is above ground, so much he will be under before hee begin to flourish outwardly, yet experience doth finde it erroneous, for though it be for the first yeere a little slower then other Trees, yet when it beginneth to flourish, it will overtake the speediest grower. Therefore when you doe intend to plant Ashes for a speedy profit, you shall not according to the old custome chuse the smooth, small, long Plants, which are hardly three inches in compasse, and have put out hardly any branches, and are such as grow from the roots of elder Ashes cut downe before, which our ancient Woodwards have used to slip or cleane from those roots, no, these are the worst sorts of Plants: but you shall take the true ground-Ash, which springeth from his owne proper root, being smooth, even, sound, and straight, without bruile, canker, or other impediment. This you shall digge up by the root, being as is before sayd almost twenty inches in compasse, and having cleansed the roote, you shall leave each spray not above halfe a foot, or eight inches in length: but for the small threds or tassels of the root, those you shall cut cleane away close by the Wood, and so plant it in every poynt, as was shewed you for the planting of the Elme, only the top thereof
you

you shall by no meanes cut off, because it is a Tree of pith, which to devide or lay bare, were very dangerous; and the best season for the planting of this Tree, is ever in the encrease of the Moone, at the fall of the leafe, which is from the beginning of October till midde November, and at no other time, for it would ever have a whole Winter to fasten his roote, and to gather strength, that it may bud forth his leafe the Summer following. Thus you see how you may plant Groves or Copſes at your pleasure, and make unto your selfe high Woods according to your owne pleasure. But you will object unto me, that you live in such a champaine Conntrey, that albe these Plantations might breed unto you infinite pleasure, yet the poverty thereof in Wood is such, that these Plants are not there to be found for any money. To which I thus answere, That in this Kingdome there is not any Country so barren, or farre off remote from Wood, being a soyle fit to receive Wood: But his next neighbour-Country is able to furnish him, especially with these Plants at an easie reckoning: as for example, I hold *Norhampton-shire* one of the barrenest for Wood, yet best able to beare Wood, and hath not he his neighbour *Huntington-shire*, and *Leicester-shire* about him, where nurceries of these Plants are bred, and preserved for the sale only? Nay, even in *Holland* in *Lincolne-shire*, which is the lowest of all Countries, and most unlikely to hold such a commodity, I have seene as goodly Timber as in any Forrest, or Chase of this Kingdome, and thus much for the planting of high Woods.

Objection.

Answer.

CHAP. 4.

Of the preservation, and sale of high Woods

IT is not sufficient for the Husbandman to sow, plant, and encrease wood about his grounds, converting his Earth to the uttermost, and extreamest profit that may spring from the same: but he must also be diligent to preserve, and nourish his timber Trees from all inconveniences that may any way annoy or afflict them: and to this end he shall daily walke into his Woods, and with a searching eye suruay every Tree which is of any account, and see if he can finde any fault or annoyance about the same, & if casting his eye up to the top, where the maine armes shoote forth themselves, he perceiue that by the breaking off some arme or other riven Boughes, the wet, and droppings of the Leaves is sunke, and fretted into the Timber, which in time will corrupt the heart, and make the Tree hollow. In this case he shall presently mount the Tree, and with his Bill, eyther cut the place so smooth that the wet may not rest thereon, or else having smoothed it so much as he may with convenience, mixe stiffe Clay, and fine Hay together, and with the same cover the place, in such manner, that it may put off the wet till it have recovered new Barke.

Of Trees
which take
wet inwardly.

Of Barke-
bound.

If hee shall perceiue any of his younger Trees to *Barke-bound*, that is, so stiffe, and straitly tied within their owne rynds, that they cannot encrease or prosper; in this case he shall with a sharpe drawing knife, made in the proportion of a narrow C draw, and open the barke even from the top of the Bole of the Tree downe to the roote, and then clap Oxe-dung into those slits, let the Tree rest, and in short space you shall see it mightily encrease.

Of Horness,
and Dores.

If he shall perceiue that *Horness*, *Dores*, or such like

like have found some little hollownesse in one of his Trees, and seeketh there to shelter, and hide themselves, which in little space they will soone make larger, he shall forthwith besmeare all the place with Tarre, and Goosdunge, and it will drive them thence.

If hee shall finde that by the droppings of other *Of the Canker* Trees, some of his Trees shall grow cankerous, and loose their barke, which is an accident very usuall, and the Trees whose barks are so lost, will with great difficulty after prosper. In this case he shall annoynt the place with Tarre, and Oyle mixt together, and then cover the place with Clay, where the barke is wanting.

If hee shall perceive any *Pismyer* hilles or beds to *Of Pismyers* be made against any of his Trees, which is very noysome, for they are great destroyers of the barks of Trees: he shall then with hot scalding water kill them, and throw the hill downe leuell, and plaine with the Earth.

If he shall finde any *Iuy, Woodbine, or Myselfoe* to *Of Iuy, Woodbine, and Myselfoe* grow in or about any of his principall Trees, which doe strangle, suffocate, and keepe them from encreasing, he shall forthwith digge up the roots thereof, and then cut it away or loosen it from about the barks of the Trees.

Lastly, if hee shall perceive that by *Thunder, Lightning*, or other plantarie stroakes, any of the armes of his well growne Trees be blasted or slaine, he shall forthwith cut them away, even close to the quicke VVood, and make the place smooth, and even where they were joyned: thus shall the carefull Husbandman with a vigilant eye, regard every enormous, and hurtfull thing that may offend his Timber, and by that meanes possesse more benefit from a few Roodes; then others doe from many Acres.

Now when eyther necessity or the vrgent occasi- *Of the sale of tall Woods*

ons of any needfull use enforceth a Husbandman to make sale of any part of his tall Wood, in which Marchandise there is many pretty, and obscure secrets, such as are hard to be shewed by any Verball demonstration, for truly there is not any trucking or marting whatsoever, in which a man may sooner deceive, or be deceived, men buying, and selling in a manner hood-winkt: for it is most certaine that no man can certainly tell eyther what penyworth he selleth, or the other buyeth, so long as the Tree is standing, there be in Trees, so many secret faults, and likewise when they are downe, and come to the breaking or burkning (as the Woodman tearmes it) so many unexpected vertues, as for mine owne part I have often seene a Tree whose outside hath promised all good hope, the barke being smooth, and even, the body large, and great, and the armes high set on, and spaciouly extended; yet when this Tree hath beene felled, and came to burkning, there hath beene found a hole in the top, which hath runne cleane thorow the heart, and utterly spoyled the whole Timber: so likewise on the contrary part I have seene a Tree very foule at the top, which is suspicious for rottennesse, whose armes have growne so close, and narrow together, that they have promised little burthen, yet being cut downe, I have seene that Tree passing sound, the armes double the loads in valuation, and the price being lesse then any, the prooffe, and goodnesse to exceed all, so that I must conclude it all together impossible to set downe any fixed, or certaine rules eyther for the buyer or seller: but for as much as there are divers worthy obseruances for both parts, and that it is as necessary to buy well as sell well, I will runne through every particular observation, which doth belong both to the one, and the other party, with which when a mans mind is perfectly acquainted he may with much bolder confidence adventure to buy or sell in the open Market.

The first thing therefore that eyther buyer or seller should be skilfull in, is the choyce of all sorts of Tim-
bers, and to know which is fit for every severall purpose, the crooked, and uneven being for some uses of much higher price, and reckoning then that which is plaine, straight, and even growne, as thus for example. If you would buy Timber for Mill-wheeles, the heads of round Turrets, or any kind of worke whatsoever, you shall chuse that which is crooked, and somewhat bent, being sound, firme, and unshaken. If you will chuse Timber for Summer-Trees, Baulks, Lawmes, or Tracens, you shall chuse that which is most harty, sound, and much twound, or as it were writhen about, which you shall with great ease perceive by the twinding or crooked going about of the barke, the graine whereof will as it were circle, and lap round about the Tree. This Timber which is thus twound or writhen, will by no meanes rive or cleave assunder, and therefore is esteemed the best to support, and beare burthen, and the heart thereof will endure, and last the longest.

Of Mill-Timber.

Timber to beare burthen.

If you will chuse Timber for Pales, Singles, Coopers-ware, Waincote, or such like, then you shall ever chuse that which is smooth, even, and straight growne, without any manner of twinding or shaking, which you shall perceive by the straight, and even growing up of the barke whose crests will ascend straight, and upright, even from the root to the top which is an assured token that all such Timber will shiver, and ryue into as thinne parts as a man would desire.

Timber for Pales, Waincote, &c.

Lastly, if you would chuse Timber to make Pyles of, to drive into the earth, for the framing of Weares within the water, the heads of Ponds, or any other worke within the water, then you shall chuse that which is most knotty (so it be sound) for that will drive without splitting, and continue in the earth the longest: and

Timber for Pyles, or Water-works.

and of all Timbers the *Elme* is accounted the best for this purpose, for it will continue almost everlastingly in the Earth without rotting; yet notwithstanding, the *Oake* is excellent good also: and thus much for the generall choise of *Oakes*.

Vfe of the
Elme.

Now if you would chuse Timber for weather-boards, or to bee used in water-workes, to make Planks for low moist Vaults, then you shall chuse the biggest, sonndest, and smootheft growne *Elme*, it is also excellent good to make Kitchen tables of, or for boards for the use of Butchers. If you will chuse the most principallest Timber, for Cart or Waine Axel-Trees, for the naves of wheeles, or for any other use of toughnesse, you shall chuse the *Elme* only, for it exceedeth all other Timbers, and though some Husbandmen are of opinion, that the *Elme* Axel-Tree when it is throughly heated, is then most apt to breake, they are much deceived, for it will endure farre beyond Ash or any other Timber, except Yewgh, which for the scarcety is now of little use in such a purpose. And herein you must obserue, that the *Elme* which you chuse for Axel-Trees must be straite, smooth, and without knots, but that which you chuse for naves, must be most knotty, twound, and the hardest to be broken or hewed asunder.

Vfe of the
Ash.

If you will chuse Timber for Ploughes, or ordinary Axel-Trees (for those of *Elme* are speciall) the rings of wheeles, harrow bulls, and such like, then you shall chuse the fairest, straightest, biggest, and smootheft growne Ash that you can finde, and from the roote end upward, you shall cut out a length of Axel-Trees, above it a length of sheldords, and above it (if the Tree be so large) a length for heads, and Skeaths; the largest which are somewhat bending, you shall elect for rings for wheeles, and so according to the bignesse of the Ash, and as your eye can proportion out what will be made of the same, you shall make valuation thereof.

If

If you would chuse Timber for joynd Tables, Cub.
bords, or Bedsteads, you shall then make choyse of ^{Vse of the} the fairest Walnut-tree you can finde, being old, ^{Wall-nut-tree:} straight, unknotted, and of a high boale: and although either Oake or Ash will reasonably well serue for this purpose, yet the Walnut-tree is by many degrees the best of all other, for it is of smoothest graine, and to the eye most beautifull, provided that by no means you put it into any worke, before it be exceedingly well seasoned.

If you would chuse Timber for Ioynt-stooles, Chaires, ^{Vse of the} or Chests, you shall then chuse the oldest Peare-tree so ^{Peare-tree.} it be sound, for it is both smooth, sweet; and delicate, and though it be a very soft Wood, yet in any of these frames it is an exceeding long laster, and the heart thereof will never breed worrne, nor will it in any time loose the colour.

If you would chuse Timber for Trenchers, Dishes, ^{Vse of the} or any Tourners ware, or for any in-laying worke, you ^{Maple, Beech,} shall then make choyse of the fairest, and soundest Ma- ^{and Poplar.} ple, being smooth, and unknotted, for it is the plainest graine, and the whitest Wood of all other: and although eyther the Beech or Poplar will reasonably well serue for these purposes, yet is neither the colours so good, nor the Timber so long lasting. Many other Trees there are which may serve for many other purposes: but these are of most use for our English Husbandman, and will sufficiently serue to passe through all his businesses.

Touching Char-coale, you shall understand, that ^{Of Charcoal.} Oake, Elme, and Ash, make your longest, and best enduring Coale: the Birtch the finest, and brightest Coale, and the Beech or Sallow the swiftest Coale. Now for your small Coale, the twigges of the Birtch makes that which kindles the soonest, and the white-Thorne that which endures the longest.

Thus when you know how to chuse every severall ^{How to value} Tree ^{Timber.}

Tree, and the true use, and profit which can any way be made of the same, and by a practised experience can cast by the survey and view of a standing Wood, the almost entire profit that may arise from the same, deviding in your memory how many are for every severall purpose, and to what reckoning they may amount one with the other, and blemishing (if you buy) the good with the bad, or making good (if you sell) the bad with those good ones which grow neerer them, you may then boldly venture into any sale either as buyer or seller at your pleasure, and sure if you know (as it is fit you should doe) the Marketable prices of all sorts of Timbers in those places, where you are either to buy or sell, as what a Mill-post is worth, what so many inches of well squared Timber, containing so many foot in length, what a dozen of boards of such a size, what so many naves, spoakes, rings, spars, or tracens, or what so much sound, and good Plough Timber is worth, and then looking upon a Tree, and computing what may every way be made of the same, allowing the wast which will hardly sometimes defray the charge of breaking up the Tree, you cannot but with great ease draw into your minde the true value of every Tree, and the uttermost profit or losse may any way rise from the same.

How to measure Timber by gesse.

And in this worke I would have you to obserue this rule very carefully, that is, when you come to any great Timber-Tree, to fathome or embrace it about with both your armes, and then knowing what quantity your fathome is, and how many fathome girdleth the Tree round about, you may from former experience give a certaine gesse what inches of squared Timber that Tree will beare, for if you have found in former trials that twice your fathome in the rough barke hath borne twenty, or two and twenty inches squared, and now finde that the present Tree on which you looke, is no lesse, but rather with the bigger, you may boldly presume, that being sound, this Tree can carry

no lesse square of good Timber : and thus much for the knowledge, and choise of tall Woods.

Now to come to the seasons, and fittest times for sale Best reasons for the sale. of these high Woods : you shall understand that it is meete for every good husband which intendeth to sell any of his high Woods , to walke into the same immediately after Christmas, and whether they be in woods, Groves, hedge-rows, or other places, to marke with a speciall marke all those Trees which he intendeth to sell, as well for the weeding, and cleansing out of all such as are decayed, and wasted, as also to know the true number of both the good, and bad, and thereby in some measure to compute the profit which will arise from the same, for to make sale of them otherwise confusedly, might bring much losse to a man, happily selling away those that would encrease their valews, and keeping them which daily would decrease their goodnesse, or so unorderly unmixing his Wood, that where one faire, and good Tree would draw a mans eye from beholding divers which are doated, now that only taken away, the rest will remaine, and neuer be sale-able, and therefore ever as neere as you can so suite, and match your Trees together, that in your sales you may never passe away an absolute worthy Tree, but you may ever couple some which have defects to goe with it, as in these dayes we see Warriners, and Poulters sell Rabbits, a fat, and a leane ever coupled together. VVhen you have thus marked out what you meane to sell, and disposed your sale according to your best profit, after notice given unto the Country in the Market Townes neere adjoyning, The time for Chap-men. you shall begin your sale the Candlemasse following, which sale you may continue all the Spring, according to the greatnesse thereof, or the quicknesse of buyers. Now for any rules or orders to be observed in these sales, I can prescribe you none certaine, because it is meete that every one binde himselfe to the customs of the Country in which he liveth, whose variations are divers,

for almost every one is severall, only in the maine they hold together, which is that they seldome make publike sales for money downe upon the head, but for a certaine payment some few moneths after, which makes the Merchandise more lookt to, and the sales goe away the faster: and in this the Sales-man must be circumspect in the choise of his Chap-men, and where he findeth any doubt there to make one neighbour stand bound for another: as for the earnest penny it is ever over, and above the price, and must be laid downe at the binding up of the bargaine, which earnest is in some Countries foure pence in the pound, in some eight pence, and in some twelue pence, according to the goodnesse of the Timber, and hath ever beene taken for a fee due to the Sales-man for his paines, and attendance, and sure if he be carefully honest, it is a meritt well bestowed: if otherwise, it is much too much for falshood, for in him consists the owners losse or profit, and therefore it may become any man, of what place so ever, to take a strickt account from such an officer: or if he have any doubt, ever to ioyne with him in commission, another of contrary faction.

When to cut
downe Timber.

When you have made sale of your Timber, you shall by no meanes let it be cut downe till the end of Aprill, at which time the sap ascending upward, will loosen the barke, and make it come from the body of the Tree easily. You shall cut your Timber downe close by the Earth, not digge it up by the roots, unlesse you meane utterly to destroy it, for from the spurnes of the roote will arise new Spiers, which in proceesse of time, will come to another Tree. As soone as you have felled your Oakes, you shall with your Axe immediately whilst the sap is wet, take all the barke from the body, and the armes, and setting it end-ways up one by another, so place it, that the winde may passe thorow it, and dry it, and then sell it to the Tanners, which will give you a good price for it, according to the worth,
and

and scarcety therof. When your trees are barkt, you shall then sawe the body into such lengths of Timber, as shall be meet for the purpose for which it is bought, or in such sort as it may be best profitable: the armes also you shall hew from the body, and so burken or breake them up, as they may be fit to be loaded: all which done, and the Timber carryed away, you shall if you intend to have the Wood renew, fence in the sale, and keepe it safe from Cattell; and thus much for the preservation, and sale of high Woods.

CHAP. 5.

Of the breeding of Wood, in rich champaine soyles.



Nature which is the most perfect workemistress of all things (as all the Philosophers say) but I say our good God out of his most divine wisdom, hath allotted to every soyle, if we note it, through the whole course of this Kingdom, particular profit to sustaine, and maintaine it, as to some Mines, to some Timber, and to some fertility of Grasse, and Corne, and where any one of these are, there commonly some of the other is ever wanting, as we see daily in our experience; and for as much as in the fruitfull, and fertile soyles of this Land, of which we esteeme the wealthy Vales, as that of *Essam*, *White-horse*, *Beluoire*, and many others the best, there is ever great scarcety of Wood, the very wealthinesse of the soyle it selfe almost denying to beare such burthen, because for the most part the stiffnesse of those Clayes is contrary to their growth, yet for as much as the necessity, and use of Wood is so great, and valuable, I would perswade every good, and worthy Husbandman, to endeavour himselfe with all his utmost power, and strength, to plant Wood

in every convenient place round about him, and not to take the rules of the ignorant for his lesson, that such never any did grow there, therefore never any will grow there; for it is absurd, and foolish; nor to say because my ancestors have never done it why should I attempt it? These arguments are made from a false figure, and the Husbandman must remember that his duty is industry, and encrease not altogether imitation, and present, and he must as seriously finde out new, and neerer profits, as hold those he hath learned; and therefore he shall endeavour by all commendable labour to have ever about him whatsoever is necessary for his use; but you will peradventure answer me, that to plant Woods in these rich soyles, were very much losse, because the fertility thereof will yeild a much better profit. To this I reply, that I would not have you plant any spacious piece of ground with Wood, but only your ditches, hedges, and such wast earths, as almost deny any other profit, and that the want of Wood in those places may not discourage you, to imagine that Wood will not grow there. Doe but view the cytes of every Towne in those rich Countries, the seats of Noblemen, and Gentlemens houses, and the Parks which commonly are adjoyning thereunto, and you shall hardly see any of them without the fellowship, and acquaintance of some Wood, which in times past hath bene planted eyther for defence or pleasure, and from thence collect that if Wood will grow with my next neighbour, then why not with me, so long as the soyle doth not alter? But *Labor, vincit omnia improbum*, True industry was never fruitlesse. Then for the generall good both of your selfe, and your neighbours, looke that you replenish all your ditches, and ring fences, with good store of Quick-set that is to say, all that lye high, and out of the danger of water with white-Thorne, black-Thorne, and Bryer, and those which are low, and subiect to washing

ing, with Willowes, Sallowes, and Ozyers.

Now for as much as it is not enough to say unto the Husbandman doe this, but that I must also shew the manner of doing thereof: I will shew you briefly how to set all manner of Quick-sets, and first for the white-Thorne, black-Thorne, Bryer, or such like, which must stand free from inundation, you shall when you enclose any peece of ground, after you have markt out the true breadth of your dyke upon the inside thereof, and close by the verdge of the dyke, cut with your spade a little trough, halfe a foot or thereabouts in breadth, and depth, in which trough or small gutter, you shall lay the roots of the first row of your Quick-sets, so as the top ends may looke upward, and little bend in towards the ditch, and these Quick-sets you shall place within lesse then a foot one of another; then with your spade beginning to make your ditch, you shall with the first cleane mould, cover all the roots close, and fast, so as they will not shake nor stirre with your hand, then having raised the banke of your dyke, and covered the lowest row of Quick-set more then halfe a foot, and broken the earth so, as it may lie close, and handsome together: you shall then after the same manner lay another row of Quick-set over the first, I meane not one Quick-set directly over another, but the second row placed as it were in the midst betweene two of the first, though at least halfe a foot higher; then you shall cover that row like the former, and over it place a third, which shall stand directly opposite, and over the first, so that in their growth the middle row shall as it were grow betweene two of the lowest, and two of the highest; and then upon this uppermost row lay the remainder of your earth, and make your barke perfect, and in this sort finishing one yard of the ditch after another, you shall at length bring your labour to the end of your desire. Now in this labour you are to observe some speciall things, as first to looke well upon your Sets before you put them
into

How to set
all sorts of
Quick-set.

into the ground, and be sure that they be greene, young, and untainted, then that the roots be cleane, and no small threeds or jagges hanging about them. And lastly, that they stand upright, and not above foure or five inches without the earth the at most, then shall you looke well to the making of your banke, and lay the earth so as it may not slip or fall backe into the Dyke, so as the raine may not wash away the mould, and leave the roots bare: but let all things be done strongly, and artificially. The best seasons for this worke is the moneths of February, March, and Aprill, or September, October, and some part of November: if the weather be dry above head. When you have set your Quick-set, you shall make a dead hedge upon the top of the new banke, to keepe those Cattell which are within your ground from breaking forth or hurting the Quick-set: and another small fence on the low verdge of the dyke which is outward, to keepe those Cattell which graze without from running into the dyke, and hurting the Quick-set. Now after a spring, and fall is past, you shall suruay all your Quick-set, and weede it cleane from all manner of filthynesse that doth choake or stifle it, and scratching the fresh mould about it give comfort to the root: then if you perceive that any of your Sets be dead, you shall plucke them up, and place new in the roome, and if any be blasted in part, and not cleane killed, you shall cut away so much as is blasted, and let the rest remaine, you shall looke well to the Caterpillar, and other wormes which mightily deuoure Quick-sets, especially in these fat Countries, and if you finde any taint of them, destroy them as is shewed you in a former Chapter.

After your Quick-set is come to the age of three yeeres, and that the banke is settled, and swarth growne
Planting of
greater Trees, thereon, you shall then within the body of your hedges plant all manner of great Trees, as Ash, Beech,

Mable, and such like, and also all manner of fruit-Trees, as Apples, Peates, Plums, Wardens, and such like, and in the first three yeeres be very careful to preserve each in his true proper nature, and doe to them all the rights which is due to their growth, and in that time observe which kind of Trees in the generallity prospereth best, and agreeeth most naturally with the soyle. And of those Trees see that you furnish your grounds most plentifully, the particular manner of planting whereof is already formerly declared. And hence doth *Kent*, and *Worcestershire* boast of their fruit, *Windsor*, *Sherwood*, and *Hollandshire* their Oakes, and other particular Countries there particular commodities.

Now for the setting of Willow, Sallow, and Oziers, it is a thing so usuall, and common, that it needeth no great art in the relation, yet because I would be loath that any omission should be taken for negligence, you shall understand that in setting them you must first respect the place, which would ever be low, and moyst, the water sometimes washing them, sometimes cooling them, and ever giving them comfort. Now to speake first of the Willow, it would be ever planted upon banks, where it may stand more dry then wet, for such prosper best, and endure longest, as for poppe, some will continue twelve, fiftene, nay one and twenty yeeres, where as those which are set close by the water, will hardly endure seven, but not above nine yeeres at the most. Touching their planting, they be set two manner of waies, but which is the best, is not yet agreed on amongst Husbandmen. The first is to take an Augure full as large in compasse (though much shorter) as that wherewith you bore Pumps, and with it bore a hole in the earth two foot, and a halfe deepe, then having headed some of the choycest Willows you have, take the fairest, and straightest of those lops, and then cutting them slopewise at both ends,

Of the setting
of Willows,
&c.

leaving no superfluous twigs cleaving thereby unto, put the bigger end downe very hard into the Earth, and then with the mould which came forth, with the Angure, ram the Earth close, and hard about the Set, so as no reasonable strength may shake it. Now there be other Husbandmen which in steed of the Angure take only an Oaken or Ash stake, of the bignesse of an usuall set; and with a Beetele drive it into the ground two footy and a halfe, and then by shaking, and opening the Earth, pull it out againe: then put in the Set as is before shewed, and beate, and tread the Earth close thereunto, and there is no doubt of the well prospering thereof. Now for the defects which Husbandmen finde in these two severall plantings. Some say, that the Angure taketh out so much Earth, that the Set cannot but stand loose at the roote, and so wanting full hold of the Earth, eyther takes not at all, or continues but a little space. Others say that the driving in of the stake beats the Earth so hard together, that it withstandeth the passage of the tender sprouts, and so killeth the set, but both are deceived; for these are suppositions, and experience daily shewes us, that these are the best, and speediest ways of setting of all sorts of Willowes that ever any time brought forth, and I have knowne one man set this way two hundred Sets in a day, of which not one hath failed, but all prospered. Now for your Sallows, you shall set them, and chuse the Sets in all poynts as you doe the Willow, only they would be placed a little neerer the water, for they delight somewhat more in moysture, as for the Ozyer it would be set like other Quick-set in the side of bankes, so as it may almost touch the water, and as your Willows or Sallows would be set a littler more one from another, as namely tenne foote asunder: so these must be set close together, and in thicke rowes one against another; and these Ozyer Plants, you must cut from their head, being the principall spiets, which grow

grow thereon, and then cut off their tops, leaving them not above two foote long at the most; and of all other they are the quickest in growing.

And although Willows, Sallow, and Ozyer, are in our lawes esteemed but as weeds; and no Woods, yet they be so profitable, that the Husbandman can hardly misse them, the Willow, and Sallow, serving for fence, and sewell, to make Harrows, Cart-saddles, and Horse Hams; and the Ozyers, for fish Leapes, or Weeles, for Baskets, Scuttles, Fans to winnow with, and many other things full as necessary: therefore if you have any marish grounds that are uselesse, bogge-myres, or Ilands in great Rivers, let them be employed to the nourishing of these profitable weeds, and by making draynes thorow them to give the water passage, you shall in small time bring them to earths of great profit, which consideration where it rightly wayed, there would not be halfe so much wast ground as is in this Kingdome.

The use of
Willowes, Sal-
lowes, and
Ozyers.

But to my purpose, when you have planted these VWillows, you shall after every floud, see if the water have driven any of them awry, or displace them, and immediately mend them, and set them up straight againe. If any Cartell shall pill or barke them, you shall pull up such bettes, and place new in their roome. Your VWillow set would by no meanes be too long at the first setting, for then it will never beare a good head, and too short is likewise as unprofitable, therefore it is held to be five foot above the Earth, is a length sufficient: you may head your VWillowes once in three yeeres, or five at the farthest, and when you see the bodies wax hollow, you may cut them downe for the fire, and fixe new Sets in their places.

Ordering of
the Willow.

The Ozyer to come to his true profit, and season, asketh much pruning, and trimming, as namely you must keepe the stocke low, and never above halfe a foot above the Earth, you must picke them cleane from Mosse,

Ordering of
Ozyer.

and from the slime, and filth, which the over-flow of the water will leave upon them : you shall prune the small spierns, and make them grow single one by another, and if any shoot out a double stake, you shall cut it away, you may head them every second yeere, at the fall only, and though some head them once a yeere, yet it is not so good husbandry, nor will the *Ozier* be so rough or long lasting. The best seasons for the setting of the *Willow*, *Sallow*, or *Ozier*, is cyther any part of the Spring or Fall, and the best time to loppe the *Willow* or *Sallow*, is in the Spring for fence, and in the Fall for Timber or Fewell : but the *Ozier* would be cut at the Fall of the Lease, only. And thus much for the breeding of Wood in the rich champaigne Countiees.

C H A P. 6.

Of Plashing of Hedges, and Lopping of Timber.

HAVING already sufficiently in the former Chapter spoken of the planting of all sorts of quicksets, it is meete now that I shew you how to order the hedges being growne, and come to perfection. Know then that if after your Hedge is come to sixe or seven yeeres of age, you shall let it grow on without cutting or pruning, that then although it grow thicke at the top, yet it will decay, and grow so thinne at the bottome, that not only beasts but men may runne thorow it, and in the end it will dye, and come to nothing, which to prevent, it shall bee good once in seven or eight yeeres to plash, and lay all your Quick-set Hedges, in which there is much fine art, and cunning to be used. For this plashing is a halfe cutting or deviding of the quick growth, almost to the outward barke, and then laying it orderly in a sloape manner, as you see

What Plashing
is.

a cunning hedger lay a dead Hedge, and then with the smaller, and more plyant branches, to wreath, and binde in the tops, making a fence as strong as a wall, for the root which is more then halfe cut in sunder, putting forth new branches, which runne, and entangle themselves amongst the old stockes, doe so thicken, and fortifie the Hedge, that it is against the force of beasts imprégnable.

Now to give you some light how you shall plasse a Hedge, though divers Countries differ diversly in these workes, yet as neere as I can I will shew you that which of the best Husbandmen is the best esteemed. First, for the time of yeere eyther *February* or *October* is passing ^{The time of yeere.} good, and the encrease of the Moone would likewise be observed.

For the tooles which you shall imploy, they would be a very sharpe nimble Hatchet, a good Bill, and a fine pruning knife. Now for the worke you shall enter into it, first with your Bill you shall cut away all the superfluous boughs, and branches which are of no use, or hinder your worke, and then finding the principall stemples which issue from the maine root, you shall within a foot or lesse of the ground with your Hatchet, cut the same more then three quarters thorow, so as they may hang together by nothing but the outward barke, and some part of the outward sap, and this stroke must ever be floape-wise, and downward, then take those mayne bodies of the Quicke-set, so cut, and lay them floape-wise from you, as you would lay a dead Hedge, and ill the branches which extend from those bodies, and would spread outwardly, you shall likewise cut as is before said, and fould them artificially into your hand, and ever within a yard or two distance, where a pretty Plant growes straight up, you shall only cut off the top equall with the height of your Hedge, and so let it stand as a stake, about which you shall fold, and twind all your other branches. Now when you come to

How to Plasse

The time of yeere.

The tooles.

the top of the hedge, which would commonly not be above five foot high, you shall take the longest, youngest and most pliant boughs, and cutting them as afore sayd, gently binde in the tops of all the rest, and so make your hedge strong, and perfect: and herein is to be noted, that the closer, and thicker you lay your hedge (so there be nothing in it superfluous) the stronger, and better lasting it will be. Many use not to bind in the tops of their plash hedges, but onely to lay the Quick-set, and no more; but it is not so husbandly, neyther is the hedge of any insurance: many other curiosities there be in the plashing of hedges, but this which I have already shewed, is sufficient both for the Husbandmans benefit, and understanding.

The profit of
Plashing.

The profit which ariseth from this labour, is the main-tenance, and defence of fencing, the preserving, and encrease of Quick-set, and a continuance of amity amongst neighbours; when one lives free from offending another. It yeldeth a good Mast for Swine, and with the overplus thereof at these times of plashings, repaireth all a mans dead hedges, and brings good store of sawell both to the Brew-house, Kitchen, and Bake-house.

The lopping
of Timber.

Next to the plashing, is the lopping of Timber-Trees, which in those Countreys which are bare, and naked of Wood, is of much use, and though I cannot much commend it, because it oft marreth the bodies of Trees, yet I must allow it for necessary, because it is a needfull rate, which the Trees pay to their Planters.

What lopping
is.

This lopping or heading of Trees, is the cutting off of the armes and uppermost branches of Trees, and suffering the body to grow still, and it may very well be done once in eight or ten yeeres, eyther at the beginning of the Spring, or at the end of the Fall, as you shall have occasion to use the Wood, and immediate after the Moone hath new changed.

The season
for lopping.

Now

Now for the manner of the worke, there is small en-
 riessay to be used therein, if your Axe be good, and
 sharpe, for you shall but cut off the armes, and boughs,
 smooth, and cleane without nickes, rifts, or gutters, or
 any thing which may receive wet, whereby the Tree
 may be cankered, and spoyled. Also in cutting away of
 the armes, you shall have a great care rather to cut
 them away (if it be possible) upward then downeward,
 least when you cut them downeward the weight of the
 arme suddenly falling downe, rive, and teare the barke
 of the body of the Tree, which is dangerous, and
 hath beene the spoyle of much Timber: which to pre-
 vent, you shall ever before you strike any blow above,
 make a good large nicke underneath, and then after cut
 it downe from above, and so the Tree shall receive no
 hurt. Also you shall obserue to cut the armes close by
 the body of the Tree, and never to desist till you have
 made the place as plaine, and smooth as may be, for to
 doe the contrary, is neyther workmanly, nor the part of
 any good husband. And thus much touching the plash-
 ing of Hedges, and lopping of Trees.

How you shall
 lop Timber.

CHAP. 7.

Of pasture grounds, their order, profit, and generall
 use.



Having already sufficiently entreated of
 errable Grounds, Gardens, Orchards, and Woods of all kinds, I thinke it
 most meete (as falling in his due place)
 here to write of Pasture grounds, which
 are of two kinds: the first, such Pastures
 as lye in Wood-land, mountainous, or cold climes, and
 are enclined to hardnesse, and barrennesse, and therefore
 only employed to the breeding, and bringing forth
 of Cattrell: the other such as lye in low, warme, and
 fruit

Diversities,
 and use of
 Pasture.

Of barren
Pastures.

Signes of bar-
rennesse,

Bettering of
soyles.

Sowing of
good seed,

fruitfull soyles, and are most fertile, and abundane in encrease, only employed to the fasting, and feeding of Cattell.

And now to speake of the first sort of Pasture, which being somewhat barren, is preserved for breeding, you shall understand that it is generally disperced over all this Kingdome, and particularly into every Country, for according to the veines, and mixture of the earth, such is eyther the richnesse or poverty of the same, and of those severall mixturs I have spoken sufficiently before in that part of this Booke, which entreateth of errable ground. Then to proceed to my purpose, it is the first office of the Husbandman when he seeth, and knoweth the nature of his earth, and perceiveth from perfect judgment that it is of very hard encrease, which as the temper, and mixture of the soyle assures him, so also he shall better confirme by these few signes, and characters, which I will deliver: as first, if he see grasse slow of growth, and that no spring will appeare before May, if instead of Clover-grasse, Dandyllion and Hony-suckle, you see your ground furnished with Peni-grasse, Bents, and Burnet. If you see much Knot-grasse, or Speare grasse, or if you perceiue the scorching of the Sun burne away the grasse as fast as the raine had brought it forth: or if you find quarries or stone neere unto the upper swarth of grasse; or if your ground bring forth Lyme, Bracken, Gorse, Whynnes, Broome, Bilbury, or Strawbury; or if your ground be morish, full of quickmyers, mossie or full of blacke-Flint, any of these signes make it to be most apparant that the soyle is barren, and of hard encrease.

And then as before I sayd it is the Husbandmans first office to provide for the bettering, and perfecting of his earth, which he shall doe in this sort. First, if he perceive that the barrennesse of his ground proceeds from want of good Plants, as from want of Clover-grasse, Dandyllion, Honisuckle, Cowslow, and other sweet flowers, then

then he shall repaire into the fruitfull Countries, and there buy the Hay-seeds, and sweepings of Hay-barnes, flowers, which he shall every spring, and fall of the lease, sow, as thin as may be, upon such Pastures, as he shall eyther lay for Medow, or preferne for the latter spring, after Michaelmas. But if he respect not the goodnesse of grasse, but the abundance of grasse, as those husbands doe which live in or about great Cities, then he shall dung those grounds which he will lay for medow at Candlemas; or those which he will grase or eate in the first beginning of the Spring, at Michaelmas before, with the oldest, and rottenest manure he can get, of which the best is the rotten staddell or bottomes of Hay-stacks, or for want of it the manure of Horse-stables, sweepings, and scowings of yards, and barnes, the mud of old ditches, or else good Oxe or Cow manure, any of which will bring forth abundance of grasse.

For abundance
of grasse.

Yet thus much I must aduertise the Husbandman, that this measuring of Pasture-grounds carries with it divers imperfections, for though it occasion abundance of grasse to grow, yet the Medow or Hay which comes thereof, is so ranke, loggy and fulsome in taste, that a beast taketh no joy to eate thereof, more then to hold very life, and soule together. Also the grasse thus measured which you intend to grase or eate with you Cattell, is by meanes of the manure so loose at the root, that Cattell as they bite, plucke up both the grasse, root, and all, which being of strong, and ranke taste in the mouth of a beast, maketh him loath, and cast it out againe; and so not strive to eate to be fat, but only to maintaine life.

The imper-
fection of
measure.

Now if your spring be slow, and late in the yeere, before your grasse will appeare above ground, it is meet then that you enclose your ground, and not only maintaine the fences with high, and thicke Quick-seets, but also with tall Timber-Trees, whose shade, and strength may defend many cold blasts from the earth.

to helpe a
slow Spring.

and adde unto it a more naturall warmnesse than it had before, for it is only the coldnesse of the soyle which makes the grasse long before it grow. Also in this case it is meete that you lay (as the Husbandman tearmes it) all such Pasture as you intend to graze at the spring following, in *November* before, and so not being bitten from that time till *April* following, no doubt but your spring will be both good, and forward. There be others which helpe their slow springing grounds by stocking them in the latter end of the yeere with great abundance of Sheepe, who although they bite neere to the ground, and leave little grasse behinde them, yet they so tread, and measure it with their hot measure, that it will spring after it commeth to rest, much more easily, and faster than it was wont. So that to conclude in a word, to make a barren ground spring early, is to keepe it warme, let it have long rest, and measure it well with Sheepe.

To helpe Knot-
grasse, and
Speare-grasse.

If your ground bee troubled with Knot-grasse, or Speare-grasse, it is a signe of too much cold moysture in the Earth, and in this case you shall with a great common Plough, made for such a purpose, turne up great furrowes thorow your ground, and make them so descend, and fall one into another, that not only the moysture bred in the Earth, but that which falls upon the Earth, may have a swift passage from the same, and so your soyle being drayned, and kept dry, all those weedy kinds of grasse will soone perish.

To helpe Sun-
burning.

If your ground be subject to the seorching or burning of the Sunne, then you shall understand that it is directly contrary to the last soyle we spake of: for as that by too much moysture is made barren by cold, so this by too much want of moysture is made barren with heate: wherefore the Husbandman shall in this case draw all his draynes, to bring moysture into his ground, which sometimes watering, and sometimes over-flowing the same, will in the end bring it

to a reasonable fertility, for it is a rule, that where there may be overflows, there can seldom be any hurt by Sunne-burning, unless that such soyles be upon Lime-stone ground, or neere unto other quarries of hard Stone, which lying neere unto the upper swarth of the grasse, doth so burne the roote, that the upper branches cannot prosper. In this case the bringing in of water doth rather hurt then good, wherefore your best course is partly by your owne industry, and partly by the labours of others, who are traded in such commodities, to let forth your ground to Stone-diggers or Lime-makers, who digging the quarries out of the Earth, and then filling up the empty places with rubbish, and other Earth, the soyle will in short space become as fruitfull as any other, for it is only the want of taking roote; or the burning up of the roote, which makes this kinde of Earth barraine.

To helpe quarries of Stone.

Now if your ground bring forth Ling, Braken, Gorse, Whinnes, or such like: you shall pare off the upper swarth of the Earth, and lay it in the Sunne to dry, in the height or heate of Summer, and being thorowly dried, you shall lay them in round hollow heapes one sod over another, then putting fire unto them, burne them into ashes, which done, spread the ashes, like a meazure, over all the ground; and you shall see those weeds will no more spring or grow in that ground.

To helpe Ling, Braken, &c.

If your ground be morish or full of quicke myres, you shall then by small draynes or trenches draw away the water, and turne it into some lower ditch or current, and so bringing the ground to a stability or firmeness, there is no doubt but fruitfulness, will presently follow after.

To helpe morishnesse or quicke myres.

Lastly, if your ground be mossie, and bring forth in stead of grasse only a soft fustie, and unwholesome moss, your only best way to cure the fault, is in the Winter time to tread it much with the feet of Cattel, as by making

To helpe mossiness.

king of Hay-stacks in divers parts of such ground, and so tending your Cattell about the same, and so yeerely shearing the places of your *Stacks* or *Recks* to goe over all your ground, and without doubt the treading of the ground will kill the mosse, and the manuring of the Cattell, and the expence of Hay-seeds upon the ground, will soone bring the Earth to much fruitfulnessse, and goodnesse.

The generall use of barraine grounds.

Now for the generall use of these barraine grounds, it is to be understood, that albe by the meanes before shewed, they may be help, or bettered; yet they are but only for breede or excrease of Cattell. Whether the grounds be severall, and enlosed; or universall; and common whether they be Woods, Parks, or Pastures, or Heaths, Moors, Downes, or other wild, and unlimited places, and these grounds shall be divided into three parts, the first, and most fruitfulest lying lowest, lying neere to the River or some running streame, you shall preserve for Meddow, and not suffer any beast to bite upon the same from *Candlemasse*, untill the Hay be taken from the ground. The second part, you shall graze or eate from *Candlemasse* till *Lammes*, which would bee that which lieth most plaine, and bleake, and most subject to all weathers. And the third part, which is the warmest, and safest, you shall graze from all *Hollantide* till *Candlemasse*, and betwixt *Lammes*, and all *Hollantide* you shall eate up your eddiss, or after crop of your Meddows.

What Cattell are to be bred.

Now whereas I speake generally, that these barraine grounds are for the breede of Cattell, yet you shall understand me particularly, as namely, what Cattell for what soyle, for every barraine Earth will not bring forth Cattell alike, as some will beare a faire Cow or Oxe, yet but a little Horse: and some will bring forth a very goodly Horse, yet but a very little horned beast, therefore you shall observe that if your ground lyce any thing

thing low, or be subject to much moyſture, and ſo not extremely barraine, but although the Spring be late, yet after it ſpringeth, it yeildeth a reaſonable bit, this ground is fitteſt to breed Cattell upon, as Cow, Oxe, and ſuch like: but if it lye high, and dry, if it be ſtony or Mountainous, have much reflection of the Sunne: or though it be ſomewhat more barraine than the former Earth, and in the beſt part of the Spring yeilde but a ſhort, yet ſweet bit, this ground is fitteſt to breed a faire, and large Horſe upon: but if it be extremely barraine cold, and moyſt, ſtony or moſſie, ſo it be replenished with any good ſtore of underwood, than it is fit to breed ſmall hard Nags upon, or Geldings of a meaner ſize, Goats, wild-Swine, or ſuch like. And laſtly, if it be extreame barraine, cold, and dry, and altogether without any kinde of ſhelter, but ſubject to every blaſt whatſoever, this ground is fit only to breede Sheepe upon, as we ſee by daily experience in theſe ſeverall parts of this Kingdome: ſo that to conclude, you ſhall beare in your memory, that where you breed your beſt, would be reaſonable bit: where you breede your Horſe good ayre, and warmth, and where you breed your Sheepe, there much ſpaciouſneſſe of ground. And thus much briefly for the nature, and uſe of your barraine grounds.

Now to proceede to your fruitfull, and rich grounds, Of fertill grounds. whoſe very encrease, and abundance of graſſe, without any other curious relation ſhewes their fertility, there is little obſervation to be held in the ording and diſpoſing of them, for being naturally good of themſelves, there needeth little art to the maintainance of the ſame. only to have an eſpeciall care, to the fencing, and ſafe keeping of them, to the due time of eating them with your Cattell, and to obſerve a fit proportion of reſt for them, in which they may grow, and gather head for the maintainance of ſuch beaſts as ſhall feede upon them. And to theſe, as an eſpeciall rule above the reſt, muſt be added a carefull diligence not to over-ſtocke

or load your ground with more Cattell then it may conveniently beare, for if your ground be never so fruitfull, if it be over-press'd with multiundes of Cattell, it cannot by any meanes yeild you the profit of your expectation, but returne you losse, and damage.

The division
of rich
ground.

These fruitfull, and rich grounds would be divided into two parts, the one pastures or grounds for continuall feeding, or nourishing of Cattell all the yeere, the other meddows, from whence you shall gather your Winters provision of Hay, for the preservation of your Cattell, which are eyther for labour or sale in the Market, and of these two parts I will speake severally.

The generall
use of rich
ground,

Yet before I begin to speake largely of them, it is meet you know the generall use of these rich, and fruitfull grounds, which is indeed the feeding or fating up of Cattell, eyther for food in your owne house, or for sale in the Market, to the Butcher, Drover, or men of such like place or profession. For indeed to breed much upon these rich grounds, is neither profitable to the Husbandman, nor is the beasts so bred, either so comely or Market-able, as those bred in the harder soyles, as we may note in our experience, if we will survey the breeds of Cattell in *Gloster-shire*, *Somerset-shire*, and *Lincoln-shire*, which for the most part are bred upon exceeding rich, and fertile ground: yet if we take view of them, we shall finde that albe they are tall, and large, yet they are of slender shape, leane-thighed, crumple-horned, and oft tender, and dry skinned, which is a fault very note-worthy amongst Graiers, and indeed are nothing so ewely, and Market-able, as those beasts are which are bred in *Torke-shire*, *Darby-shire*, *Lanca-shire*, and such like, all which are bred upon hard, and barren grounds; yet have goodly, large, and round bodies, close trust, thicke, and well coupled together, faire heads, velvet skinned, and as the Proverbe is, are so beautifull in home, and haire, that

that they are every mans money, in every Market. So that I conclude, that albe upon the rich ground you may breed good Cattell, and it is necessary also so to do for the maintenance of stocke, yet the generall use, and that which is the greatest profit to the English Husbandman, is to graze, and feed the same.

Now to proceed to my former purpose, touching that part of rich ground which I call Pasture, because it is only for feeding, you shall first provide that they be very well fenced, according to the nature of the Country, either with ditch, pale, rayle, dead-hedge, or quicker-growth: you shall also see that they be well stored with water, that is sweet, and whollome, for putrified water breedeth many mortall, and infectious diseases amongst Cattell. These Pastures must ever be your highest ground, and such as lie safest from inundations. These Pastures which you lay or give rest to from the beginning of November, you may feed at Candlemas following with heilding beasts, or such as are but beginning to feed, but with your fat beasts not till our Ladies day after: those Pastures which you lay or give rest to at Candlemas, you may very well feed at May following: those which you give rest to at May-day, you may feed at Midsummer, for then the spring is swift, and plentiful: those you lay at Midsummer, you may feed at Lammas, and those you lay at Lammas, you may feed in October, and generally all the Winter following: only you shall obserue, that those pastures which lye most in danger of water, or any other casualty, be first eaten, least by too long delaying an unseasonable time come, and so you be both prevented of your hope, and profit.

Of Pastures,
and ordring
them.

In the eating of your Pasture grounds, are many things to be observed, as first for the feeding of your fat Cattell, you must by all meanes be sure that they have full bite, which is to say, length of grasse: for Cattell, whose tongues are the principall gatherers up
of

Manner of
feeding of
Cattell.

of their food, neither can nor will bite neere unto the ground, except it be extreame hunger which compels them, and then they take little joy in their food. Next you shall oft (as any fit occasion will give you leave) remove, and shift them into fresh grounds, and not expect that they should eat your grasse downe to the bottome, but only as it were scum, and take the uppermost and choyselt part thereof, and so they will feed both swiftly, and thoroughly: and for that grasse which they shall leave behind them, you shall eat it up after them with your labouring or worke-cattell, and lastly with your sheepe. It is very good also amongst your fat beasts ever to have a leane horse or two: for your fat beasts taketh delight to feed with them, and sometimes to bite after them, there being as it were a kind of sympathy or liking of each others tastes. After your grasse is fully knit, and hath received his whole strength, which will be at *Midsummer*, then you may suffer your fat beast to eat a little neerer unto the ground till after *Lammes*, because there is an extraordinary sweetnesse therein, springing from the heate of the Sunnes beames only. These few observations well kept, there is no doubt but your Cattell will feed well to your contentment, then when you see that they are sufficiently fed, according to the syme of your purpose, whether it be for the use of your household, or the use of the Market, you shall forthwith imploy them accordingly, for it is both the losse of time, and money, not to put them off by sale or otherwise, so soone as they are come to the end of your desire. For these rich grounds will sometimes make two returns in the yeere, sometimes three, which is a great profit. And I have heard sometimes of foure, but it is very rare, and the Cattell so returned must be very well stricken with flesh before they be put unto feeding, but if your ground will returne leane beasts fat twice through the yeere, it is commodity sufficient.

Now

Now because it is not sufficient to say sell, or kill your How to know
a fat beast.
Cattell when they are fat, except you have the art, and skill to know the same, you shall obserue these few rules following, and they will sufficiently instruct you in the same. First, when you see your beast in the generall shape, and composure of his body shew most faire, and beautifull, each member being comely, and each bone covered, in such sort as a perfect shape requireth, as no eye is so stupid as cannot tell when a beast looketh well or ill-favouredly, you shall then guesse the beast to be well fed, especially when you see his huckle-bones round, and not sharpe, his ribs smooth not rough, his flanks full, his natch thicke, and his cod round. This when you shall perceive, you shall handle him, and gripping him upon the neathermost ribs, if you feele the skin loose, and the substance soft under your hand, you may be well assured that the beast is well fed outwardly, that is upon the bones. You shall then lay your hand upon his round huckle-bones, and if that feele, under your hand, soft, round, and plumpe, you shall be assured that the beast is well fed both outwardly, and inwardly, that is, both in flesh, and tallow: then you shall handle him at the setting on of his taile, and if that handle bigge, thicke, full, and soft, it is a true signe that the beast is very well fed outwardly: then handle his natch-bones which are on both sides the setting on of his taile, and if they feele soft, and loose, it is a signe that he is well fed both outwardly, and inwardly. Lastly, you shall handle his cod, and navell, if it be of an Oxe, and the navell only if it be a Cow, and if they handle thicke, round, soft, great, and plumpe, it is a most assured signe that the beast is very well tallowed within. And thus when any of these parts or members shall handle in contrary manner, you shall judge of the contrary effects. And thus much touching the knowledge of a fat beast.

Now for the second part of these rich grounds, which Of meddows,
and their
are ording.
M

are Meddows, they ought to be the most fruitfullest, and richest of all other, lying low, and leuell, and being now, and then in the Winter season washt with inundations, yet not too too much drencht or washt with the same: for as the moderate overflowing of waters enricheth, and fertiles the soyle, so the too much soking or long resting of the water rot-teth the earth, and bringeth it to barrainnesse, ney-ther is it altogether necessary that every Meddow should ly so low that it might be overflowed, for there be some high grounds which are free from those floods which will beare Meddow in very sufficient man-ner, and although the lower Meddows doe abound in the plenty of grasse, yet the higher grounds ever beareth the sweeter grasse, and it is a rule amongst Hus-bandmen, that the low Meddows do fill, but the high Meddows do feede: the low are for the Stable, but the high are for the Cratch, and that which is long will maintaine life, but that which is short will breed Milke.

Preseruation
of meddows.

The chiefeft respect you shall have to your Meddows, is to defend, & preserve them from Moales, and such like vermine, which roots up the earth, and destroy the sweet, and tender roots of the grasse. Next, that you shall note in what places of the Meddow the water standeth long-est, and from thence, by small furrows, or draynes, to give it a free passage, so that the Meddow may as it were cense, and be dry in one instant. Lastly you shall main-taine the bankes of all such ditches, and other fences bor-dring about your Meddows in good, and sufficient man-ner, both for keeping out of water after your Meddows begin to grow, as also for keeping Cattell from eating them in the night or other times, which is a great de-privation, and losse of the profit you expect to come from them: for you shall understand, that if any over-flow shall come unto your Meddows after May, it will leave such a sandy filthinesse in the grasse, that ex-cept

cept very moderate showers fall swiftly, and sodainly, to wash it out againe; the Hay which shall be got of that crop, will both be unsavory, and unwhollome, and breed in your Cattell many dangerous, and mortall sickneses.

The best times for laying of Meddows to rest, is, if the Meddow lie high, as in up-land Countries, or if the soyle be cold, or the springing thereof slow, at *Candlemasse*: but if the ground be more warme, temperate, and of some more fertility, then you may lay it at our Ladies day in *March*: but if the ground be most fruitfull, then if you lay it at *May* day, it will be early enough. Also in the laying of your Meddows to rest, you shall consider the state of the ground, as whether it be eaten neere and bare, and with what Cattell, as Horse, Oxen, or Sheepe: if it have beene eaten bare with Oxen or Horse, then you shall lay it earlier in the yeere, for it will aske a longer time to grow againe: but if it have beene eaten with Sheepe (although they bite neere to the ground) yet you may lay it so much later, because the measure which they bestow upon such good ground, will quickly hasten on the Spring: but if your Meddows have not beene eaten bare, but have a good deepe fogge upon them still, then you may lay them the latest. Also in the laying of Meddows, you shall consider whether they be common or private, if they be common Meddows, and that no old custome bind you to the contrary, you shall lay them to rest early in the yeere, that recovering a forward Spring, you may cut them so much the sooner, and so have the better after-crop, and the longer time to eate it: but if your Meddow be private, and at your owne particular disposing, then you shall lay it according to your owne necessity, and the goodness of the soyle, observing ever to give it full time of growth, and not to cut it till the grasse bee full ripe, for it is better to let it grow a weeke too long (so the weather be seasonable for the withering of it) then

When to lay
meddows.

to cut it two days too soone because when it is to earely cut, it not only looseth the strength, and goodnesse, but also the substance, and waight, and in the drying shrinketh, and wasteth to nothing.

When to mow
meddows.

Touching the fittest time to cut or mow your Meddows : If they be laid in a due season, it is held of all the best English Husbandmen generally to be a weeke or a fortnight after *Midsummer* day, as namely about the translation of *Thomas*, which is ever the seventeenth day of *July*, and without question it is a very good time for all men to begin that labour, if their grounds be fruitfull, and of earely growth : but in as much as divers grounds are divers in their growth, some being much more hasty than other some : and for as much as some Meddows may as well grow too long as too little a time, as in high land Countries, where the heate, and reflection of the Sunne will burne, and consume away the grasse, if it be not gathered in a due season, I would therefore wish every good Husbandman about a weeke before *Midsummer*, and a weeke after, to view his Meddows well, and if he see them turne browne, if the Cock-heads turne downeward, and stand not upright, if the Bells, and other vessels of seede open, and shed their seeds, if your Honisuckles have lost their Flowers, and the Penigrasse be hard, dry, and withered, then you shall truly understand that your Meddow is ripe, and ready to be mowne, and the longer it standeth, the more it will loose of the substance, and when any of the contrary signes appeare, as when the Meddow lookes greene, and fresh, the Cock-heads looke upright, the Bells are close, and hard ; the Honisuckles flowing, and purple, and the Penigrasse soft, and moyst, then is your Meddow not ready to cut, nor will the Hay that is so gotten be other then soft, fuzzie, and most unwholsome, no beast taking delight to eate of the same.

The inclination
of the wea-
ther.

Now to these considerations, you shall adde a careful
observation

observation of the state, and inclination of the weather, and if you finde that the weather is disposed to much wet or incertainty, then you shall forbear to mow, because that moysture will still maintaine, and hold the grasse in his perfect strength so long as it groweth: but if it be once cut downe, then the wet will soone rot, and spoile it: but if you finde the weather enclined to drought, and fairenesse, then you shall with all speede cut downe your Hay, for one load got, and brought into the barn without raine, is worth two that hath beene washt, though but with the smallest shower. There be some Husbandmen that in the mowing of their Meddows, will observe the state of the Moone, and other planetary conjectures, but they are fitter for those which seeke curiosity more then profit, for mine owne part I would wish every good Husband but to know truly when his crop is ripe, and then to gather it in the most constant, and fairest seasons, which the rules already set downe will most amply shew him.

Now for the manner of mowing your Meddows, although the generall act resteth in the hands of the mower, and that it is hard, and impossible, in words, to expresse the art of the action, nor is it needfull that every Husbandman be a mower, yet for those rules which the English Husbandman should know, and observe, I will in no sort omit them. You shall then know that in the mowing of your meddows you shall mow them smooth, plaine, and levell, and as the Husbandman tearmes it, with such an even board, that a man may no more but discern the going in, and coming forth of the Sythe: and this shall be done so close, and neere unto the ground, as is possible for the worke-man to get; especially if it bee in publique, and common Meddows, because the swap, and first crop is all the maine profit you can challenge your owne: nay, you shall doe it also in your owne private, and severall Med-

The manner
how to mow
meddows.

dows: for although an ignorant custome hath drawne some of our Husbandmen, to say, and beleeeve that there is no losse in the sleight, and insufficient mowing of private Meddows, because say they, what I loose in the Barne, my Cattell finds on the ground, yet they are much deceived in that opinion, for what they so leave on, the ground halfe cut halfe uncut, is no good food, neither pleasant nor savoury, but dry, hard, and bitter, and indeed no better then sower fogge, which may fill, but cannot nourish, and who then will be so simple, as not to preferre sweet Hay before such unsavoury grasse? therefore be carefull to mow your grasse even, and close by the ground, for it will make the fresh grasse spring up with more ease, and be much pleasanter in taste.

How to make
Hay.

Next after the mowing of your Meddows, followeth the making of your Hay, which is a labour that must be followed with great care, and diligence, for it is an old saying, that dearth beginneth at the Hay-barne doore, and he that is negligent in that, can hardly be good husband in any thing else, then to shew you how you shall make your Hay, you shall first understand that no one particular forme can stand for a generall rule, because Hay must be made according to the nature of the grasse, and the soyle where it groweth, some being apt to wither, and make soone, as that grasse which is finest, and hath in it least weeds, others will be long in making, as that which is full of thicke, strong, and sower grasse, many weeds, bunnes, and such like hard stalkes, which are not easily dried, therefore it is the part of every good Husbandman, eyther by his eye, and knowledge to judge of the nature of his grasse, or else to follow the customs of the Country, and soyle wherein he liveth, but the first Knowledge, is the better Science. But to proceed to my purpose, I will in the sequentes of two sorts of grasse, the one fine, and the other coarse shew you the generall making of all sorts of Hay.

First,

First, then for the making of your fine rich grasse into Hay, if it grow in great abundance, thicke, and close, and so lieth in the swath, you shall have one with a Pitch-fork to follow the Mowers, and to spread, and throw the grasse thin abroad, that the ayre, and Sun-beames may passe thorow it: and this is called in most Countries tedding of Hay. The next day, after the Sunne hath taken the dew from the ground, you shall turne that which the day before you tedded, and then if you have any more new mowen, you shall ted it also. The next day following, as before, when the dew is from the earth, you shall turne your Hay againe, and so letting it lie till the Sunne be at his height, begin to stir it againe, at which time if you finde it reasonably well withered, you shall then draw it into windrows, that is, you shall marke which way the wind standeth, and the same way that it bloweth, the same way with Forks, and Rakes one after another, gather in the Hay into long, great, thicke rows: then you shall make those windrows into large Cockes, of which the biggest is ever the best, for they will defend themselves from raine, if happily any shall fall, whereas the little small Cocke lying light together, taketh in the raine like a sponge, and so makes the Hay a great deale worse then otherwise it would be; when your hay is thus set in safe Cocke, you shall let it rest a day or two, that it may take a little sweat therein, which will make the Hay wondrous pleasant, and sweet, then when the Sunne is got up to a pretty height, you shall open those Cockes, and after the Sunne, and wind hath passed thorow them, you may if the grasse be cleane, and fine of it selfe, without ranke grasse, loade it, and carry it eyther into the Barne, or such other place, as you have appoynted for the receipt thereof: but if it have any ranke grasse, which you see unwithered amongst it, then you shall make it up againe into safe cockes, and so let it rest a day or two more before you lead it away. And thus much for the making up of fine Hay.

To make fine Hay.

Now

To make
course Hay,

Now for the making of course grasse into Hay, which you must suppose to be grasse growing, in cold, moyst, woody, and barraine grounds, full of weedy, rough, and stumpy hearbage, long in growing, late ere it can be gathered, and therefore deprived of much of the Sunnes strength, to sweeten, and wither it. This grasse as soone as it hath beene mowen, and tedded, as before said: the next day you shall make it into little grasse cocks, as big as little Moale-hills, and so having laine a day or better, then breake them open, and let them receive the Sunne, and wind, for they will heate, and sweat a little in the grasse, which makes it Hay the sooner, and better: then after the Sunne hath spent all his power upon it, you shall make it up into little cocks againe putting two of the first cocks into one, then having so layne another day, breake them open againe, and give them the Sunne: then make them up againe, and put three or foure of those cocks into one, and so let them lie another day, then breake them open as before, if the Sunne shine faire, and at even make them up againe, putting three or foure of those cocks into one, and so every morning after the Sunne is up breake them open, and at evening make them up againe, till you find that the Hay is sufficiently well dried, and sweateth no more in the cock: but in the morning when you breake it open it is dry, without stemme, smoake, or vapour arising from it, which both your hand, and eye may perceive in the first stirring or moving, and then you may at your pleasure lead it home, and house or stacke it as you shall have occasion.

Use of Hay
for Cattell to
breed or labour
with,

Now for the use of Hay, it is two-fold, that is, neither for the maintenance of breeding Cattell, or Cattell for labour, or else for the feeding of Cattell for the Market, or for slaughter: for the maintenance of breeding Cattell, or the Cattell which are employed for the Plough or other labours, whether it be draught or travell, you shall make choyse of the sweet, and well-dried Hay,

shall not be good well

which is of fresh, and green colour, well withered, sound, and perfect Hay, though it be long, loggy, and not exceeding much sweet, it matters not for being well inned, and dried, it will serve sufficiently for choise purposes: and with this Hay, mingle sometimes Wheate-straw, Rye-straw, Barley, or Oate-straw will not be amisse for heilding or breed, Cattell; but for worke best they receive good supply of straine, let them have Hay simply of it selfe during the busie times of their worke, but when they best, you may use your discretion. For the time of giving Hay or foddering to such Cattell as are in the house, the best is in the morning, before they go to labour, in the evening when they come from labour, & presently after they drinke, and at night if they young be to bed, then for those Cattell which goe abroad, as Sheepe, heilding beasts, and such like, to fodder them morning, and evening, is out, and out fully sufficient. *For the use of Hay for Cattel, you shall*
Now for the use of Hay for Cattel, you shall
 make choise of the fruitfulest, sweetest, finest and shorrest Hay you have, being full of flowers, pleasant, and odoriferous to smell on: and although this Hay be mixt with some roughnes, yet it is not the worse, for though your fat beast make chare of great orts, yet is the losse not great, for those orts may be given to other heilding and hungry Cattell, which will eate them with great eagernesse. This Hay would in the first place not be withered too soone, but so slacke up with harty greenesse, that it may a litle more buckle the colour to a reddish browne, but by no means so moyst that it may mould, rotte, or putrifie, for that is fullome, and vild, but only alter the colour, and thereby make the smell sweeter, and stronger. This Hay will entice a beast to eate, and will best serve them, and in this his stomacke, and with it will breed on him such a drought or thirst, that hardly any water will quench

noted in 8
aid. 101
original

quench him; and the Grazer takes it ever for an infallible signe, that when his beast drinks much hee feeds fat; and his tallow wonderfully increaseth. For the ordinary times of foddering your fat Castell, if they be in the stall, and as we say, tyed up by the head, the best is in the morning before, and after water, at noon, in the evening before, and after water, and late in the night when yost goe to bed; but if they feed abroad, and take the benefit of fogges, and after-grasse, then to fodder them Morning, Evening and high noone is fully sufficient.

Here I could speake of Pease-feeding of Sheep, Swine, and other Cattel, cyther as the Trough, Reche, Staeke, or such like, in the several manner of cratches, fastens, of stals, and many other necessary rules appertaining to this mystery: but I am against my will confined, and therefore must referre it to some other occasion, being both in spoyle, an excellent discourse, with a tale halfe told, and imperfectly spoken. And thus much therefore of Meadows, and their severall uses.

CHAP. 8.

A new method for the husbandly curing of all manner of Cattle diseases.

The reason
for this
Chapter.



IF this Theame I have written a whole (or as some will suppose many) Histories, yet doubtlesse nothing too much, the cause is so necessary, and commodious: yet this I must let every Reader understand, that what I have here formerly done, I did for a generall, and uncontroulable satisfaction to the whole Kingdome: both the learned, and unlearned, and as well to assist the nicest, and most curious opinion, as the simple, and payne-dealing creature: whence it came that I waded

artfully,

artfully, and profoundly into the uttermost secrets of this knowledge, leaving nothing unsearcht; or unlearned; that might any way tend to the satisfaction of any iudiciall Reader, and therefore took liberty to make a large progresse, without sparing any paynes, to make my worke absolutely most perfect. But now, having only to doe with our honest plaine English Husbandman, who eyther cannot much read, or else hath little leasure to read, at most but a little memory to bestow upon his readings: I have here for his ease both of memory, readings, and other variations, drawne him such a method for the curing of all the diseases in Cattel, as was never yet found out by any man or Author whatsoever: and so worthy to be preferred to all posterities forever, and ever.

To beginne then first with the Horse, which is the Husbandmans principall creature, you shall understand that he hath, of my knowledge, one hundred, and odde diseases, or infirmities, besides other hurts, and blemishes, for all which, I have severally shewed severall cures, as may appeare by the volumes which are much too great for any Husbandman to carry in his braynes, and therefore for his ease I have drawne all those hundred, and odde sicknesses or torrances, into twelue, and will assure every Husbandman that with these twelue medicines following, he shall perfectly cure all the diseases in a horse, whatsoever.

To proceede then in an orderly manner to the cures: Every Husbandman must know that all diseases in a horse are inward or outward: inward as offending the vitall parts, or outward as troubling the members; to speake then first of inward sicknesses, I will divide it into two branches, that is, eyther it offends the heart, or the brayne. If it offend the heart, we call them, Feavers, Yellows, *Amicos*, consumption of Lungs, Liver, Spleene, Gall or other Inwards, Wormes, Fluxes, Belly-bound, and divers others of like nature. For

Horses diseases to be cured with twelue medicines.

Of inward sicknesses.

the Horses eares; and so tie them up, and shake the eares; that the medicine may sinke downe, and take good store of blood from the Horses necke-veine; and temple-veines, and use this medicine two or three mornings together.

If they proceed from corruption of food, or any other unwholsome keeping which corrupteth the blood; then we call them *Impostumations*, *Byles*, *Blotches*, *Fistulas*, *Polemills*, and such like; and the cure is, to take the loame of an old muddle wall, strawes, and all, but let there be no Lime amongst it, and boyle this loame with strong *Vinegar*, till it be like an *Pultus*; and as hot as the Horse can abide it, apply it to the fore place; and it will not only draw it to a head, and breake it, but also draw it, seach it, and heale it.

The fourth
medicine,

There be also other diseases which proceed from naughty food; and the corruption of blood; and we call them *Farcies*, *Scabs*, *Mangy*, *Scratches*, *Paynes*, *Maldanders*, *Sirlanders*, and all of such like name; and the cure is first to slit the hard knots; or rubbe off the scurfes; and make the fore place raw; then take yellow *Asiucke* beaten to powder, and mixe it well with fresh grease, and then therewith annoynt the fore places all over; which done, tie up the Horses head, so as he may not knappe or bite himselfe; and so let him stand an houre or two; then take strong old Pisse warmd, and therewith bath, and wash the Horse aboven; and so put him to his meate; and in this manner dresse the Horse, or beat it three or foure mornings; and it will be sufficient; only you must not fayle to take from him good store of blood at his necke-veine.

The fifth me-
dicine,

Now if his disease proceed from accidentall causes, as from *Wounds*, *Bruses*, *Straynes*, *Galles*, hurts in the eyes, excretions, or broken *Bones*, then you shall to every one of these take these severall medicines which

The sixt medicine,

follow; as first, if they be wounds, in what sort soever taken or received, you shall take *Turpentine Wax*, and *Hogs-grease*, of each a like quantity, and melting them together into a salve, dresse the wound therewith, and it will heale it, how great or little soever.

The seventh medicine,

If they be bruises, whether gotten by stroke, naughty Saddles, or other rushes, from whence proceedeth many times old, putrefied, and most rankorous ulcers, you shall first if the tumor be onely swelled, and not broken, apply unto it the fourth medicine of *Loame*, and *Vinegar*, but if it be an open old rankorous ulcer, you shall take *Hogs-grease*, *Turpentine Wax*, and *Verdigrease*, of each a like quantity, and being well mixt, and incorporated together, dresse the sore therewith, till it be whole, for this medicine will abate, and keepe downe any spongy or naughty dead flesh which arises, and keepe the sore from healing, and may therefore alwayes be used in such like cases, whither the sore be new or old.

The eight medicine,

If they be straynes eyther of joynts or sinewes, in what part or member soever it be, old or new, take strong *Vinegar*, *Rash-grease*, and *Wheat-bran*, and boyle them together till they be thicke like a Pultus, and then apply it very hot to the strayne, morning, and evening, and it is a most certaine cure, and will keepe the member from growing fowle, knotted, or goured, and will also take away all swellings or paynes of the limbs whatsoever.

The ninth medicine,

If they be Galls, of what kind or nature soever, whether on the backe, limbs, or any other outward part of the body, you shall take first fresh Butter, scalding hot, and with it first bath, and wash the sore, then take thicke Creame, and mixing it with the Soot of a Chimney till it be thicke like a salve, with the same anoynt the sore place morning, and evening, and it will cure it without any feare of dead flesh: if you doe strow upon the sore the powder of *Rosen* it will be good also.

If they be any hurts in the eyes, as strokes, inflammations, Pin-web, Canker, or any other mischief whatsoever, you shall then take true ground-lvie, which otherwise is called of some *Ali-boofe*, and beating a good handfull thereof in a mortar, with a spoonefull or two of white *Rosewater*, or the water of *Eyn-bright*, then straine it thorow a cleane wet cloath, and with that water dresse the sore eye morning, and evening: or if you can conveniently three or foure times a day, for the ofner is the better, and it will without all fayle cure any sore eye in the world whatsoever, eyther of man or beast, or any other creature.

The tenth
medicine.

If they be excretion of bones, as Splents, Spavens, Cnobs, Ringbones, or such like, in what part or member soever they be you shall then take white *Arshicke*, beaten or ground to fine powder, and making a little slit upon the head of the excretion, the length of a Barley corne, or very little more, yet in any waies downe deepe to the excretion, and then with the poynt of your knife put the *Arshicke* upon the excretion, and so let the horse stand with his head tied up for two houres at least, for in that time the greatest angish will be gone, and then put him unto his meat, and in three or foure daies after the excretion will fall away of it selfe; and then with a little sweet Butter you may cure the sore, which will not be great.

The eleventh
medicine.

If they be broken bones, or bones out of joynt, you shall after you have placed them in their due place, first annoynt them with the Oyle of *Mallows*, or for want of it with warme *Patch-grease*, and then clape about them a plaster made of *Pitch*, *Rossen*, and *Masticke*, and so with soft, and flat splents, so splent the member as it may not move, and so let it rest nine daies ere you dresse it againe, and in any case so sling the Horse or beast that he may not during that time, put his member to the ground, which a little diligence, and playne will easily doe.

The twelfth
medicine.

Diseases in
the feet,

If your Horse have any infirmity in his hooves as *Quarter-bow, away-teach, pricke, crowns-scabbe, rotten flesh* or any such ulcerous distale, you shall first lay it open, and then heale it with the severth medicine. But if it be foundring, fretteshing, or such like, then you shall first pare all his hooves cleane over, so thin that you may discern the quicke all over, then let him bleed at the tocs, and take great store of blood from him, but in any case cut not the veine in sunder: then take the sixt medicine, and being boyling hot (after hollow shoes have bene racked on his feet) with Flaxe hurds dipt therein, stop all the soales of his feet up hard, and thus doe twice in sixe daies, and it will bring his feet to their full perfection againe, without any great losse or trouble.

Diseases in
the privy parts
or for stithing.

As for the common infirmities in a Horses privy parts, which are *swellings, inflammations, incoording*, and such like, you shall but only swim your Horse in cold water morning and evening, and it is a present helpe, both for them, or the stithing of a Horse in his hinder Joynts: Thus you see these twelve medicines will sufficiently cure all the diseases in a Horse or Beast whatsoever, which who so will not carry in his memory, he is worthy now, and then to be punished for his sloath and sometimes to suffer losse, which may make him more industrious.

to study for his owne good,

and profit. And thus much

for the cure of
diseases.

FINIS.

THE
PLEASVRES
OF
PRINCES,
OR,
Good mens Recreations.

CONTAINING,
A Discourse of the generall art of Fishing,
with the Angle, or otherwise: and of all the
hidden secrets belonging thereunto.

TOGETHER
With the Choyce, Ordring, Breeding, and Dyer-
ting of the fighting Cock. Being a worke never
in that nature handled by any former
Author.



LONDON,
Printed by IOHN NORTON, for HENRY
TAVNTON, in St. Dunstons Church-yard,
in Fleet-street. 1635.

THE
PLEASEURES

OF
PRICES

OF
Good mens Recreations.

CONTAINING
A Discourse of the Generall art of Fishing,
with the Angles or chawls: and of all the
hidden secrets belonging therunto.

TOGETHER
With the Choice, Ordering, Breeding, and Dy-
ing of the fighting Cock. Being a worke never
in that nature handled by any former
Author.



LONDON,
Printed by Iohn Norton, for Henry
TAYLOR, in St. Dunstons Church-yard,
in Fleet-street, 1637.



For the more perfect / in his own time, and manner
nature) carried in it, and the more the deeper, nor
anger, the more nature, which / ever in some ill
nature) which in all other passions: neither are they

THE PLEASURES

OF PRINCES.

And as in every condition there must be a better-look-
or more-excellent, to in this, when the weaker desire
is deprived his expectation, which is then tall in
to riches, and times, such as would make

Of Angling, the Parry, Use, and Delinquency.



nce Pleasure is a rapine, or
power in this last age, Rome mo
the hearts of men, and there sed-
ged up with such a careful guard,
and attendance, that nothing
is more supreme or richer with
greater strength in their affect-
study, and the more it is be-
come the fumes of Pleasure, and

every good is measured by the delight it produceth:
what worke unto man can be more thankfull, then the
discourse of that pleasure which is most comely, most
honest, y and giveth the most liberty to Divine medita-
tion, and that without all question is the Art of Ang-

ling, which hath ever beene most hartedly necessary, both unto the sport or recreation of GODS Saints, as most Holy Fathers, and of many worthy, and renowned Princes, both dead, and at this time living.

The use of
Angling, and
the vertue.

For the use thereof (in its owne true, and unabished nature) carrieth in it neyther covetousnesse, deceipt, nor anger, the three maine spirits which (ever in some ill measure) ruleth in all other pastimes : neyther are they alone predominant without the attendance of their severall head-maids, as These, Blasphemy or Bloudiness: for in Dice-play, Cards, Bowles, or any sport where money is the goale to which mens minds are directed, what can mans avarice there be accounted other then a familiar robber, each seeking by deceipt to couzen, and spoyle other of that blisse of meanes which God had bestowed to support them, and their families ? And as in every contention there must be a better-hood or super-excelling, so in this, when the weaker deceipt is deprived his expectation, how doth it then fall into curses, oathes, and furies, such as would make Venus tremble with the imagination ? But in this Art of Angling there is no such evill, no such sinnefull violence, for the greatest thing it containeth is for much labour a little Fish: hardly so much as will suffice a manne in a reasonable weeke : for the Angler hath justice, not command his reward, and that which is worthy millions to his contentment, another may buy for a groate in the Market, his deceipt worketh not upon men but upon those Creatures whom it is lawfull to be cruel for our honest recreations or needfull uses, and for this cause, and fury it must be so great a stranger to this civill pastime, that if it come but within view or speculation thereof, it is no more to be esteemed a Pleasure, for every proper good thereof in the very instant faileth, shewing unto all men that will undergoe any delight therein that it was first invented, taught, and shall for ever be maintained

by *Patience* only. And yet I may not say only *Patience*, for her other three Sisters have likewise a commanding power in this exercise, for *Iustice* directeth, and appointeth out those places where men may with liberty use their sport, and neyther doe iniury to their neighbours, nor incur the censure of incivility. *Temperance* layeth downe the measure of the action, and moderateth desire in such good proportion that no excess is found in the overflow of their affections. Lastly, *Fortitude* enableth the mind to undergoe the travell, and exchange of weather with a healthfull ease, and not to dispaire with a little expence of time, but to prefever with a constant imagination in the end to obtaine both pleasure, and satisfaction.

Now for the Antiquity thereof (for all pleasures, like *The antiquity of Angling.* Gentry, are held to be most excellent which is most ancient) it is by some writers sayd to be found out by *Ducalion*, and *Pialia* his Wife, after the generall flood: others writ it was the invention of *Suave*, after the peace concluded betwix him, and his brother *Tytan*: and others, that it came from *Belus* the son of *Nimrod*, who first invented all holy, and vertuous recreations: and all these though they savour of fiction, yet they differ not from truth, for it is most certaine that both *Ducallion*, *Suave*, and *Belus*, are taken for figures of *Noah*; and his family, and the invention of the Art of Angling is truly sayd to come from the sonnes of *Seeth*, of which *Noah* was most principall, Thus you see it is good, as having no coherence with evill, worthy of use: in as much as it is mixt with a delightfull profit: and most ancient, as being the recreation of the first Patriarkes, wherefore now I will proceede to the Art it selfe, and the meanes to attaine it.

CHAP. 2.

Of the *Angler-rod*; *Lines*; *Corks*; *Hoskes*; and other
Tools for *Angling*.

AS much as the first ground-worke
 or substance of this *Art of Angling* con-
 sisteth in the implements belonging
 thereunto, and that except a man be
 possesse of them which are most exact,
 nimble, or necessary for the same, his
 labour is vaine, and to little or no
 purpose employed, and for as much as the *Angler-rod* is
 the greatest, principallest, and sole director of all other
Tools belonging thereunto, I thinke it not amisse to
 begin with the choise, and order thereof, according to
 the opinions of the best noted *Anglers*, which eyther
 have beene in times past or are at this day living.

Of the *An-
 gl-rod.*

For the choise then of your *Angler-rod*, you shall
 understand that some *Anglers* are of opinion, that the
 best should be composed of two pieces; a maine bo-
 dy, and a small plyant top. The maine body would
 be of a fine growne ground *Willow*, or a ground-
Elme, of at least nine or ten foot in length, straight,
 smooth, without knots, and not much differing, at ey-
 ther end in one substance or thickness. It would be ga-
 thered at the fall of the Lease, beere, or about *All-hol-
 lontide*, and layd up in some dry place, where it may lie
 straight, and of it selfe season; for to beake them in the
 fire (as many doe) when they are greene, is not so good,
 but after they be well dried, and seasoned of themselves
 then to beake them in the fire, and let them so straight,
 and even that an arrow may not surpassse them, is ex-
 cellent: then you may take of the upper rinde, and
 what with the smoake, and their owne age, their co-
 lour will be so darke that they will give no reflect in-
 to the water (which is a principall observation.) Your
 rodde

rodde being made thus straight, and seasoned, you shall at the upper end thereof, with an Augure or a hot Iron, but a hot Iron is the better, burne a hole, about three inches deepe, and of a fingers width: then on the outside of the Rod, from the toppe of the hole to the bottome, you shall warpe it about eyther with strong double twisted threed well waxed or pitcht, or with flinemakeres threed many times doubled, and well waxed with flinemakeres waxe, and the last end fastned under the last Coules, to close; and sure that it may by no meanes loose: for this will keepe the Rod from cleaving or breaking in that place where the hollownesse was made.

The stocke being thus made, you shall into the hole Of the top of the Angle-rod. fixe the toppe, which would be a very small ground-Hassell, growing from the earth upward, very smooth, and straight, which would be cut at the latter end of the yeere, and lye in season all the winter, the upper rinde being by no meanes taken off, neyther the Rodde put into the fire at all, but only seasoned in a deepe place, where it may lye straight, and have both winde, and some syre of the fire to come to it. This toppe must be plyant, and bending, yet of such a sufficient strength that it will not breake with any reasonable jerke, but as it is any way bowed so to returne againe to the former straightnesse. This toppe wand would be of a yarde, and a halfe, or an elle at least in length, and at the smallest end thereof would be fastned with a warp of hayre, a strong loope of hayre, about an inch long, to which you may at pleasure fasten your fishing line: and the bigger end of the top must be thrust into the socket of the stocke, and made to fast that it may not loosen nor shake out with any shaking, or other reasonable violence. And albe the Withen or ground-line is accounted the best to frame the maine stocke of, yet I have seen very good stockes made both of Sallow, Birch, or Poplar: for the tighter your Rod

The Art of Angling.

is (so it be strong) it is so much the better, and more for the use of him that useth it.

The *Angle-rod*
of one piece.

There be other approved good Anglers, which allow only that Rod which is composed all of one entire piece, and thinke them stronger, nimble, and less casuall, and these Rods they would have chosen of an excellent straight, and well-growne ground *Hazel*, being from the bottom to the top finely & fast-growne, the upper end thereof being small, pliant, and bending. This Rod would be gathered in the fall of the Leaf, when the leaves are some fallen, and some sticking: as soone as you have cut them up, you shall cut away the leaves, and small sprigs, yet not so neere that you hurt the Backe (for that by no means must be stirr'd, as well for the strength of the Rod, as for the colour, which being darke will not so soone catch the eye of the Fish, and offend them) Then bringing your rods home, you shall lay them upon a leuell bore, and pressing them downe with weights, to keepe them from warping, let them lie, and season all the Winter: then in the Spring-time take them up, for your purpose, which is only to make the knots smooth, and to fixe your loop of hayre to the upper end. Now of these rods, the longest is the best, so it be straight, and well-growne, for most commonly they are so short, that they will serve to fish with but in little narrow Brooks, or else in a Boate in great waters.

The *Angle-rod*
of many
pieces.

There be other Anglers, and many of the best, and approved judgment, which allow the *Angle-rod* of many pieces: as those which are made of *Cane*, each piece exceeding another one degree, in such even proportion that being fixed, and thrust on within another, they will shew as one even, and most straight without growne body without any crookednesse or ether outward evill favourednesse, these pieces would not be above foure foot in length a piece, and three such pieces, which make twelve foot are sufficient for the stocks

of

of the Rod, besides the top, now for those ends which are the sockets, into which you fixe the other Canes, you shall hoope them about with fine plates of Brasse, an inch, and an halfe broad, well sodered, and smoothly filed, which will keepe the Cane from cleaving: and for the toppe of this Rod, the round Whale-bone is thought the best, and surely in my conceipt so it is, both for this or any other rod whatsoever, for it is tough, strong, and most plyant: these Rods most commonly are made to have the small Canes thrust downe into the wide Canes, so that a man may walke with them as with a staffe, and when he pleaseth to draw them forth, and use them as occasion shall be offered: the only exception which is taken at these kind of Rods, is the bright colour of the Cane, which reflecting into the water, oft times scareth the Fish, and makes them afraid to bite. But if you fish in deepe, and thicke waters, there is no such matter, for the shadow of the Rod is not discerned through the Sunne, only in shallow, and cleere Brookes it is a little hindrance, and therefore he which is a master in this Art will Vmber, and darken the Rod, by rubbing it over a gentle fire with a little *Capons-grease*, and browne of *Spaine* mixt together.

Now for your Lines, you shall understand that they Of the Lines. are to be made of the strongest, longest, and best grown Horse-hayre that can be got, not that which groweth on his maine, nor upon the upper part of or setting on of his tayle, but that which groweth from the middle, and inmost part of his docke, and so extendeth it selfe downe to the ground, being the biggest, and strongest hayres about the Horse; neither are these hayres to be gathered from poore, leane, and diseased Iades of little price or value, but from the fattest, soundest, and proudest Horse you can finde, for the best Horse hath ever the best hayre, neyther would your hayres be gathered from Nags, Mares, or Geldings,

but from stone Horses only, of which the blacke hayre is the worst, the white or gray best, and other colours indifferent: those Lines which you make for small Fish, as Gudgeon, Witting, or Mehow, would be composed of three hayres: those which you make for Pearch, or Trout, would bee of five hayres: and those for the Chub or Barbell, would be of seven: to those of three hayres you shall adde one thred of silke: to those of five two threds of silke: and to those of seven three threds of silke: you shall twist your hayres neyther too hard nor too slacke; but even so as they may twinde, and couch close one within another, and no more, without eyther snarling or gaping one from another: the ends you shall fasten together with a Filbers knot, which is your ordinary fast knot, foulded foure times about, both under, and above, for this will not loose in the water, but being drawne close together will continue when all other knots will faile, for a hayre being smooth, and stiffe, will yeild, and goe backe if it be not artificially drawne together: your ordinary Line would be betweene three, and foure fathome in length, yet for as much as there is diversitie in the length of Rods, in the depth of waters, and in the places of standing to Angle in, it shall be good to have lines of divers lengths, and to take those which shall be fittest for your purpose.

The colouring
of Lines.

These Lines, though the naturall hayres being white, or gray, be not much offensive, yet it shall not be amisse to colour them according to the seasons of the yeere, for so they will least scare the Fish, and soonest intice them to bite with most greedinesse: and of colours the best is the Water-greene, which you shall make after this manner: Take a pottell of *Alome-water*, and put thereunto a great handfull of *Marigolds*, and let them boyle well till a yellow skumme rise upon the water, then take halfe a pound of greene *Coperas*, and as much *Verdigrease*, beaten to fine powder, and put it

it with the hayre into the water, and so let it boyle againe a pretty space, and then set it by to coole for halfe a day: then take out your hayre, and lay it where it may dry, and you shall see it of a delicate Greene colour, which indeed is the best Water-Green that may be. This colour is excellent to Angle with in all cleere waters where the Line lyes plaine, and most discovered, and will continue from the beginning of the Spring to the beginning of Winter. Now if you will have your Lines of a yellow colour, you shall boyle your hayre in *Alome-water*, mixt only with Marygolds, and a handfull of Turmerycke; but if you cannot get Turmerycke, then you shall stampe so much of Greene Walnut-leaves, and mixe it with the water, and steepe your hayre therein twenty, and foure houres, at least. Lines of this colour are good to Angle with in waters that are cleere, yet full of weeds, sedge, and such like, for it is not unlike to the stalks of these weeds, and it will well continue to Angle with all the first part of the Winter, as from before *Michaelmas* till after *Christmas*.

If you will have your Lines of a Rustie colour, you shall take a quart of *Alome-water* and as much strong Lye, then put thereto a handfull of soote, and as much browne of *Spaine*; and after it hath boyled an houre or two, set it by to coole, and when it is cold steepe your hayre therein a day and a night, and then hang it up to drie; these coloured Lines are good to Angle with in all deepe waters, whether they be Rivers or standing Pooles, as Ponds, and such like, and are most in use from *Christmas* till after *Easter*. Now if you will have your Lines of a browne or Dusky colour, you shall take a pound of Vmber, and halfe so much soote, and seeth it in a pottle of Ale a good space, then when it is cold steepe your hayres therein a day, and a night, and then hang them up to drie, and the colour will bee perfect, yet ever the darker you would have it, the more Vmber put into it: these Lines are

excellent to Angle with in waters that are blacke, deepe and muddy, be they eyther running or standing waters, and will continue all seasons of the yeere whatsoever, only in bright waters they are too blacke, and cast too large a shadow. Lastly, if you would have your Lines of a tawny colour (although in the water it sheweth almost all one with the other darker colours) you shall take Lime, and Water, and mixe it together, and steepe your hayre therein halfe a day, and then take it forth, and steepe it double so long time in Tanners ouze, and then hang it up to drye, and the colour will be perfect: these Lines are best to Angle with in morish, and heathy waters, which are of a reddish colour, and will serue for that purpose all seasons of the yeere: if with this colour, or the Greene, you mixe a siluer thred it will not be amisse, and with the other colours a golde thred it is good also: and note, that at each end of your Line you make a loope, the one to fasten to the toppe of your Rodde, being the larger, and the other to fasten your hooke Line unto, which would be somewhat lesser.

Of the *corks*.

After your Lines are made, you shall make your *Corks* in this manner: take of the best, and thickest *Corks* you can get, and with a fine Razer having pared it smooth on the outside, cut into the fashion of a long *Katherine Peere*, bigge, and round at the one end; and long, and slender at the other, and according to the strength of your Line, so make your worke bigger or lesser, as for a Line of three hayres, a *Cork* of an inch, and a halfe in length, and as much in compasse in the thickest part is bigge enough: and for a Line of more hayres, a *Cork* of more length, and compasse will become it: and indeed to speake truly for as much as it serueth, but only for a direction to your eye to know when the Fish byteth, and when you shall strike, the lesser your *Cork* is, the better it is, and breedeth lesse affright in the water, in so much that many Anglers will

will fish without any *Corke*, with a bare quill only, but is not so certaine, nor giveth so sure direction as the *Corke* doth. After you have shaped your *Corke*, you shall with a hot Iron beare a hole, long-wise, thorow the middest thereof, and into that hole thrust a quill, and thorow the quill draw your Line, and fasten them both together with a wedge of the hard end of the *Goose*-feather: and note that both your quill, and your wedge be white, for that breedeth least offence on the water, then place the smaller end of your *Corke* downe towards your hooke, and the bigger end towards your rod, that the smaller end, sinking downe with the hooke, the bigger may floate aloft, and beare the quill upward, which when at any time, you see puld downe into the water, then you may safely strike, for it is an assured signe that the Fish hath bitten. There be other Anglers which make their *Corks* in the fashion of a Nun-gigge, small at both ends, and bigge in the middest, and it is not much to bee disliked, only it is a little sooner apt to sinke, and you may thereby strike before the Fish have fully bitten. Others shape their *Corks* in the fashion of a whirle, or of a little Apple, round, flattish of both sides, and this *Corke* is best to angle for the greatest Fishes, because it being not so apt to sinke, will floate till the hooke be fastned, and that the Fish beginneth to shut away with the bayte, so that a man then striking can seldome or never loose his labour.

Next to your *Corks* is your hooks, and they be of *Of Angles* divers shapes, and fashions, some bigge, some little, some ^{hookes.} betweene both, according to the Fish at which you angle, the best substance whereof to make them, is either old *Spanish* Needles, or else strong Wyer drawne as neere as may be to that hight of temper, which being nealed, and alayd in the fire, you may bend, and bow at your pleasure. Now for the best softning of your Wyre if you make your hooks of old Needles, you shall need

but to hold them in the blaze of a candle till they be red hot, and then let them coole of themselves, and they will be soft, and plyant enough, but if you make your hooks of strong Spanish Wyer, you shall roule it round, and then lay it upon burning Char-coales, turning it up, and downe till it be all red hot in every place, then let it gently coole of it selfe, and it will be soft enough. Now for the making of your hooks, I advise you to goe to such as are the best reputed for making of them, and buy of all sorts of hooks from the biggest to the least, that is to say, from that which taketh the *Loach*, to that which taketh the *Salmon*, and let them lie before you for examples; then looke of what sort of hooks you intend to make, and with a fine file, first make the poynt of your hooke, which would neyther be too sharpe, for then it will catch hold of every thing when it should not, nor too blunt, least if sayle to take hold when there is occasion: therefore in that obserue a meane, making it lesse sharpe then a fine needle, and more sharpe then a small pin. When you have made the poynt then with a thin Knife of a very good edge, you shall cut out, and raise up the beard which you shall make greater or lesse, according to the bignesse of the hooke, and the strength of the Wyer: for you must by no meanes cut the beard so deepe, that thereby you weaken the hooke, but it must be as strong in that place as any other. When the poynt, and beard is made, you shall with a fine payre of round Plyers turne, and compasse the hooke about making it round, circular-wise, being somewhat more then a semi-circle, and ever obserue that the rounder the compasse or bough commeth in, that so much the better proportioned the hooke is. This done, you shall leave as much as you thinke convenient for the shanke, and then cut it off from the rest of the Wyer: which done, you shall beate the end downe flat, and somewhat broader then the rest, and so pollish, and smooth

smooth it all over, then heating it red hot in a little pan of Char-coales put it suddenly into the water, and quench it, which will bring your hooke to full strength, and hardnesse. Thus you see how to make hooke of all sizes, and shapes, whether they be single or double hooke, for, although the quantities alter, yet the shapes doe not; and the double hooke which is, the Pike-hooke is no other, but two single hooke, all of one Wyer turned contrary waies: and this double hooke must not have the line fixt unto it, but a strong Wyer joynted unto it of three inches long, well wound about, and wraped with a smaller Wyer: then to it another Wyer of the same length, as if they were two severall linkes joyned together, and then the line fixed to the last linke, and therefore are called armed hooke, for they defend the line from shearing or cutting in pieces with the teeth of the Pyke.

Now for your single hooke you shall thus fixe them to your lines, take a length of your twisted hayres, containing that number which is fit for the hooke, and having made a strong loope at the one end, lay the other end where is no bough, upon the inside of your hooke, then with strong red silke, eyther single or double according to the bignesse of the hooke being well waxed, whip, and warp the hooke round about as thicke, close, and straight as may be, in such sort as you see men whip their bow-strings, and in the same manner make the ends of your silke fast: then with a payre of Syzers cut the silke, and hayres off close by the hooke, and you may be sure that they will not loose one from another with any reasonable violence. After your hooke is thus fastned to your line, you shall then plumbe your line, which is to fixe certaine pieces of Lead, according to the bignesse of your line about it, some being in length a quarter of an inch, some halfe an inch, some bigger, and some lesse, according to the waight of your hooke, and bignesse of your Corke, for these plummets are but only to
carry

carry downe your hooke , and lay it in the bottome, neyther being so heauy to make the *Corke* sinke, nor so light as not with the smallest touch to make the *Corke* dip into the water : you shall understand that your first plummet would be twelue or foureteene inches from the hooke, the rest not above one inch distance one from another, not being above five or seven at the most, albe some anglers use nine, and some more, as their fancies rules them. There is in-plumbing of lines three severall fashions of plummetts used, as one long, another, square, and the third in a Diamond forme, but all tending to one end, have but one use, and the long ones are accounted the best, so that they bee neatly set to, and the ends smooth, and close laid downe, so that they tangle not the line by catching hold upon Weeds, or other trash in the bottome of the water.

Of other implements for Anglers.

Thus have you seene the best choise of Rods, Lines, Corks, and Hooks, and how to fixe, and couple them altogether to doe their severall offices, it now resteth that we speake of other necessary implements, which should accompany the painefull Angler, and they be these; he shall besides these before spoken of, have a large Musket-bullet, through which having fixed a double twisted thred, and thereof made a strong loope, he may at his pleasure hang it upon his hooke, and therewith sound the depth of every water, and so know how to plumbe his lines, and place his *Corke* in their due places: then he shall have a large ring of lead, fixe inches at least in compasse, and made fast to a small long line, thorow which, thrusting your *Angle-rod*, and lett it fall downe into the water by your haire line, it will helpe to unloose your hooke if it fastned eyther upon weeds or other stones in the water. Then he shall have a fine smooth board of some curious wood for show sake, being as big as a trencher, and cut battlement-wise at each end; on which he shall fold his severall lines.

His

His hooks he shall have in a drie close box: he shall have a little badge of red cloth, to carry his wormes in, and mixe with them a little fresh Mould, and *Fennell*; then he shall eyther have a close stopt home, in which he shall keepe *Maggots*, *Bobbes*, *Palmeres*, and such like, or a hollow Cane, in which he may put them, and *Scarabes*: he shall have a close box for all sorts of live *Flies*, and another for *Needles*, *Silke*, *Thred*, *Waxe*, and loose hayres, then a roule of pitcht thred to mend the *Angle-rod* withall, if it chance to breake, a file, a Knife, a Poutch with many Purles, in which you may place all your implements severally. Lastly, you shall have a little fine wanded Pebble to hang by your side, in which you shall put the Fish which you catch, and a small round net fastned to a poales end, wherewith you may land a Pike or other great Fish; to have also a little Boat, or Cot, if you Angle in great waters to carry you up, and downe, to the most convenientest places for your pastime, is also right necessary, and fit for an Angler; And thus I have shewed you the substance of the Anglers instruments.

CHAP. 3.

Of the Anglers apparrell, and inward qualities.



Touching the Anglers apparrell (for it is a respect as necessary as any other whatsoever) it would by no meanes be garishly, light coloured, or shining, for whatsoever with a glittering hue reflecteth upon the water, immediately it affrighteth the Fish, and maketh them flie from his presence, no hunger being able to tempt them to bite, when their eye is offended; and of all Creatures there is none more sharpe sighted then Fishes are. Let then your apparrell be plaine, and comely, of

Anglers ap-
parrell.

darke colour, as Russet, Tawny, or such like, close to your body, without any new fashioned slashes, or hanging sleeves, waving loose, like sayles, about you, for they are like Blinks which will ever chase your game farre from you: let it for your owne health, and ease sake, be warme, and well lyned, that neyther the coldnesse of the ayre, nor the moystnesse of the water may offend you; keepe your head, and feet dry, for from the offence of them springeth Agues, and worse infirmities.

Anglers
vertues.

Now for the inward qualities of the mind, albe some Writers reduce them into twelue heads, which indeed whosoever injoyeth cannot chuse but be very compleat in much perfection, yet I must draw them into many more branches. The first, and most especiall whereof, is, that a skillfull Angler ought to bee a generall Scholler, and scene in all the liberall Sciences, as a *Gramarian*, to know howe to Write or discourse of his Art in true termes, eyther without affection or rudenesse. He should have sweetnesse of speech, to perswade, and intice other to delight in an exercise so much laudable. He should have strength of arguments, to defend, and maintaine his profession against enuy or slander. He should have knowledge in the Sunne, Moone, and Starres, that by their aspects he may guesse the seasonableness or unseasonableness of the weather, the breeding of stormes, and from what coasts the Winds are ever delivered. He should be a good knower of Countries, and well pled to high wayes that by taking the readiest paths to every Lake, Brooke, or River, his journeys may be more certaine, and lesse wearisome. He should have knowledge in proportions of all sorts, whether Circular, square, or Diametricall, that when hee shall bee questioned of his diuermall progresses, he may give a Graphical description of the Angles, and Channels of Rivers, how they fall from their heads, and what compasses they

they fetch in their severall windings. He must also have the perfect Art of Numbring, that in the sounding of Lakes, or Rivers, he may know how many foot or inches each severally containeth, and by adding, subtracting, or multiplying the same, he may yeild the reason of every Rivers swift or slow current. He would not be unskillfull in Musique, that whensoever cyther melancholy, heavinesse of thought, or the perturbations of his owne fancies stirreth up sadnesse in him, he may remove the same with some godly Hymne or Antheme, of which *David* gives him ample examples. He must be of a well settled, and constant beliefe, to enjoy the benefit of his expectation, for then to dispayre it were better never to put in practise: and he must ever thinke where the waters are pleasant, and likely, that there the Creator of all things hath stored up much of his plenty: and though your satisfaction be not as ready as your wishes, yet you must hope still, that with perseverance you shall reap the fulnesse of your Harvest: then he must be full of love, both to his pleasure, and to his neighbour: to his pleasure, which otherwise would be irkesome, and tedious, and to his neighbour that he neither give offence in any particular, nor be guilty of any generall destruction: then he must be exceeding patient, and neyther vex nor exasperate himselfe with losses or mischances, as in loosing the pray when it is almost in the hand, or by breaking his Toolles by ignorance or negligence, but with a pleased sufference amend errours, and thinke mischances instructions to better carefulnesse. He must then be full of humble thoughts, not disdainning when occasion commands to kneele, lye downe, or wet his feet or fingers, as oft as there is any advantage given thereby, to the gaining the end of his labour. Then he must be strong, and valiant, neyther to be amazed with stormes, nor affrighted with Thunder, but to hold them according to their naturall causes, and the pleasure of the highest: neyther must hee,

like the Foxe which prayeth upon Lambes, imploy all his labour against the smaller frye, but like the Lyon that ceazeth Elephants, thinke the greatest Fish which swimmeth, a reward little enough for the paines which he endureth. Then must he be liberal, and not working only for his owne belly, as if it could never be satisfied: he must with much cheerefulnesse bestow the fruits of his skill amongst his honest neighbours, who being partners of his game, will doubly renowne his triumph, and that is ever a pleasing reward to vertue. Then must he be prudent, that apprehending the reasons why the Fish will not bite, and all other casual impediments which hinder his sport, and knowing the remedies for the same, he may direct his labours to be without troublesomesse: then he must have a moderate contentation of mind, to be satisfied with indifferent things, and not out of an avaricious greedinesse thinke every thing too little, be it never so abundant: then must he be of a thankful nature, praising the Author of all goodnesse, and shewing a large gratefulnesse for the least satisfaction: then must he be of a perfect memory, quick, and prompt to call into his mind all the needfull things which are any way in his exercise to be employed, least by omission of any he frustrate his hopes, and make his labour effectlesse. Lastly, he must be of a strong constitution of body, able to endure much fasting, and not of a gnawing stomacke, observing houres in which if it be unsatisfied it troubleth both the minde, and body, and looseth that delight which maketh the pastime only pleasing.

Cautions,

Thus having shewed the inward vertues and qualities which should accompany a perfect Angler, it is now to give you certaine Cautions, which being carefully observed, you shall with more ease obtaine the fullnesse of your desires. First therefore when you goe to Angle, you shall observe that all your Tooles, Lines, or Implements be (as the Sea-man saith) yare in and ready for

for to have them rayld, will made, or in unredinesse, they are great hinderance to your pleasure. Then looke that your baits be good, sweet, fine, and agreeing with the season: for if they be otherwise improper in any of their natures, they are useless, and you had bene better at home then by the River. Then you must not Anglen in unreasonable times; for the Fish not being inclined to bite, it is a strange intemperance that can compell them: then you must be carefull neither by your speech, motions, or too open standing to give a sight to the Fish, for when they are soared they flye from you, and you seek for sperey in an empty house. Then if you labour in cleere and untroubled waters, for when the Brooks are white, mud dy and thicke by the through inundations or other trouble, it is impossible to get any thing with the Angler: then to respect the temper of the weather, for extreme winde or extreme cold taketh from Fish all manner of appetite: it doth likewise too violent heat, or raine that is great, heauy, and beuyng, or any stormes, Snowes, Hayles, or blustings, especially, when which cometh from the East, which of all is the worst: those which blow from the South are best, and those which come from the North or West are indifferent: many other observations there are, but they shall follow in their due places.

Of the best and worst seasons for Angling in the year.

Of the best and worst seasons for Angling in the year. The best time is in the best seasons, and their contrary, for the generall Art of Angling, I thinke it not amisse, a little by the way, to give you a glance or specification how to order your body and attire at each severall season: for the staunched



The Anglers
manner of
standing.

of your standing, and concealing of your selfe, is a materiall, and chiefe poynt in this art. Know then, that if you Angle in any Pond or standing Water, you shall before you fall to your businesse, with your Plümbe, sound the water in diuers places, and where you finde it deepest, blackest, and least transparent, there you shall stand to Angle, placing your selfe under the banke; and if it be possible, so as your shadow may be carried from the water: for you must auoid it; if you cannot do, let your shadow lie upon the water, and although in these deepe places your standing open or close, are cyther of them reckoned indifferently, because the waters deepe is a sufficient concealment, yet the closer you stand is accounted amongst Anglers most handy, and artificiall. But if you goe to Angle by the River, then the best place to cast in your Line, is where it is deepest, and cleereft, so as you may behold the Sand or Gravel at the bottome: and in these places you shall strive to conceale your selfe as much as is possible, as standing behind *Rapier, Osier*, or other Trees, or under the covert of some Banke, or other shrub at the side of the River; also in covert places, where are many Weeds, roots of Trees, and other rubbish, is good Angling, but very troublesome, for Fish lying their warme, and in safety, will have great resort thereunto, and bite freely, so that the Angler must be carefull in the putting in of his hooke, and very deliberate in striking, least doing any thing rashly, he breake his Line, and hooke, being never so little entangled. It is good also to Angle in Whirle-pooles, for they being like pits within the Rivers, are seldome unfurnished of the greatest Fishes; also it is good to Angle at the falls of Water, as under Bridges standing behind the lawmes; and Arches or at the flood-gates of Mills, being hid with the higher Timbers. And generally where you see the water is deepest, cleereft, and calmest, being least troubled with wind or current, is the fittest place to Angle in. Other observations there

are

are, but they will follow in more necessary places. The best sea-
sons to Angle
in.

To returne then to our first purpose. You shall know the best seasons to Angle in is from Aprill till the end of October, speaking of the generall use of the pleasures; and the best houres also in generall account, are from foure in the morning till nine, and from three in the afternoon till after five in the evening, the wind blowing from South, West, or North, and the ayre temperate, inclined to warmesse; but to speake of particular observations of seasons, know, that if the day be darke, close, and lowering, or have a gentle whistling wind playing upon the water, it is good to Angle in, and the fish will bite with pleasure: nay, if a fine mizzling dew of rayne fall gently, without violence, they will bite then the faster; also, after floods are gone away, and the rivers are come within their owne banks, their first cleerenesse recovered, and the water pure, then it is good to Angle. And generally for your Summer Angling chuse the coolest time of the day, for in the heat of the day, Fish betake themselves to their rest, and will neither bite nor play. But for your Winter Angling, which is from October to Aprill, you shall not make any difference of time, if the weather be calme, for all houres of the Sunne are alike, only the noone-tide, or mid-day is most preferred, especially in Ponds, and standing waters. If the water where you Angle, ebbe or flow, the best time of Angling is held to be in the ebbe; yet in some places where the tyde is not great, there the flood is preferred. Lastly, whensoever you see the Trout play or leape above the water, and the Pike swim in pursuit of other Fishes; it is then a very good time to Angle in, using such baits as are then meet for the month, and season, as shall be shewed hereafter.

Now for the seasons which are thought to Angle in, there is none worse than in the violent heat of the day, or when the Winds are blowen, Rayne heaven, Snow and Hayle extreamest Thunder, and Lightning, &c. of

Seasons ill to
Angle in.

sensitive

sensitive, or any sharpe ayre which flyeth from the East:
 the places where men use to wash Sheepe you shall for-
 beare, for the very smell of the wood will chase Fish
 from their haunts. Land-Bonds are enemies to Anglers;
 so also at the fall of the Lease is the shedding of leaves
 into the water, and many other such like pollutions, of
 which we will speake somewhat more hereafter.

Of Fishes
 haunts,

Therefore, to conclude this Chapter, and to shew you
 as well how to find your Fish, as the art to take it being
 found, you shall know that the *Carpe*, *Eley*, and *Tench*,
 doe ever haunt muddy places: the first, which is the
Carpe, lyeth ever in the depth, and bottome thereof: the
Tench, among the weeds, and roots of Sedges, and the
Eley, under stones, blocks, or the roots of Trees.

The *Bream*, the *Cherwin*, and the *Pyke*, haunt ever
 in the cleare, and sandy bottome, the *Pyke* where you
 see great store of small fry: the *Cherwin* where the
 streame runneth swiftest, and the shade is greatest, and
 the *Bream* where the water is broadest, and the depth
 giveth greatest liberty; and generally these three sorts of
 Fish delight more in standing water, then in running ri-
 vers; although the ancient Brownells, or *Willow*, or *Willow*
 are found both to remain in the river, and in the pond.

In all England is much fished
 which are Rivers in *Lincolnshire*. Now the *Salmon* hath
 his haunt in the swiftest, and broadest Rivers; whose
 Channels fall downe into the Sea: the *Trout* loveth
 smaller brooks, whose current is swift, cleare, and gravel-
 ly, and ever hath his lodging in the deepe holes that
 are therein, and the *Perch* haunth rivers of the same
 nature, only he abideth most in the creeks, and hollow
 places, which are about the banks, and doth debase
 three Sorts, generally *Salmon*, *Trout*, and *Perch*; these
 cleare streames being greene with weeds, and the bot-
 toms hard with gravel, and pibble.

The

The *Gudgeon*, the *Loach*, and the *Bul-head*, haunt ever shallowest places; and outland *Sturgeons* are slow, yet transparent. The *Bul-bitt*, *Bomb*, *Dace*, and *Ruffe*, haunt the deepe shady places of these brooks, which are mixt with more sand then gravel; or where the clay is firme, and not slimy; and delight ever to lie under the shadows of Trees, Brambles, or other things growing from the banke. The *Luce* or *Lucerne*, which indeed is but the over-growne *Pyke*, haunteth the broad, and large *Méares*, which are miles in compasse, being deepe, and still, and ever lodgeth in the bottome thereof amongst the roots, and tufts of *Sedges*, and *Bulrushes*, being quiet, and least troubled. The *Hamber* haunts the clayie Rivers of his Countries, where the soyle is rich, and full of *Whirls*, or in Lakes, and Ponds of the same nature. The *Shad*, and *Twaite* haunt those waters, which are brackish, deepe, and accustomed to ebbe, and flowe, and where they haunt there commonly also *Salmon*, both the *Shulter*, and the *Smelt*, all which lie close, and flat at the bottome of the water, so it be more Ooze then gravel, or betweene it and sand, browned

But here now me thinks I heare the curious reprehend me, saying, that if these rules should be infallible, that then no River or Pond could containe above three sorts of fish only; when daily experience sheweth us, that some Rivers have ten, some twenty, and some thirty, as *Trent*: for example, whose ancient name in the French is *Trisma*; in Latin *Triginta*; and in English thirty, derived from this ground, because their standeth upon her thirty Castles, thirty Market-townes, and are in her thirty severall sorts of fishes.

Objection.

To which I thus answer, that for as much as into most Rivers falleth many severall waters, and many soyles, according to the nature of those Countries, thorow which the Channels runne, that therefore every alteration of soyle may alter the breed of fry, and many severall kinds may be in one Streame, so that

Answer.

the Angler in the choice of his pastime in such places, must either have a perfect knowledge of the several doolets (which he may conveniently know by the baits) or else rely upon his experience, which will be the best Tutor to direct him to the haunts of several Fishes: but for Ponds or standing waters which are of one earsh, there you shall finde the best proper which are before rehearsed, mixed to you, I will not omit the most productive overgrown Ponds, which are to be found in the woods, and are much to be desired, being the best Meats which are to be had, and are the best of the kind.

CHAP. IV.

Of Bays in general, and of every particular kind, as the Sea-bay, the Bay, and the Fresh-water Bay.

Since I have thus farre orderly published the outward, and instrumentall necessities appertaining to this modest recreation, showing the severall tooles, and implements which are to be employed therein, and have also shewed the inward, and mentall knowledge which should be harboured in his breast that will be an Angler: I will now proceed to speake of the Bays, and inticements, which are the agents, and effecters of our desire in this pastime, without which all other imployments are vaine, and uselesse: for what doth it avale to have all other things in perfection, when this, which is the strength and life of the rest, is either imperfect or defective? To speake then generally of Bays, they are divided into three kinds, which are, *Live-bays*, *Dead-bays*, and *Bays living but in a appearance only*. Your *Live-bays* are *Wormes* of all kinds, especially the red *Worme*, the *Maggot*, the *Bobbe*, the *Dore*, browne *Flies*, *Frogs*, *Grasshoppers*, *Hornets*, *Wasps*, *Bees*, *Snayles*, small *Reckes*, *Blowes*, *Gadgings*, or *Loches*. Your dead bays are *Pests* of all makings, young broods of *Wasps*, dried or undried, the clotted blood of *Sheepes*, *Cheefe*,

Cheese, Bramble berries, Currus, Seeds, Cherries, and such like. And your bayts which seeme to live yet are dead, are *Flies* of all sorts, and shapes, made of filke, and feathers about your hookes, which will serve for every severall season through the yeere, and being by your Line moved upon the water, seeme to be live *Flies*, which the Fish with great greedinesse will catch up, and devoure.

Now for the seasons, in which these bayts are most profitable, you shall understand that the red *Worme* Seasons.

will serve for small Fish all the yeere long; the *Maggot* is good in July, the *Bobbe*, and *Dore* in May, the browne *Flies* in June, *Frogges* in March, *Grasshoppers* in September, *Hornets* in July, *Wasps*, and *Bees* in July, *Snayles* in August. For the *Rach*, *Blake*, or *Gulph*, they serve the *Pike* at any season: all *Beetles* are good in May, June, and July: dried *Wasps* in May, *Sheepes blood*, and *Cheese* in Aprill: for *Bramble berries*, *Corn*, and *Seeds*, they are good at the fall of the leafe. Lastly, for your dead *Flies*, which are most proper for the *Trout*, or *Grayling*, you shall knowe that the dun *Fly* is good in March, being the lesser; but the greater dun *Fly* will serve the latter end of February: the stone *Fly* is good in Aprill, the red *Fly*, and the yellow *Fly* in May, the blacke *Fly*, the darkeyellow *Fly* and the moorish *Fly* in June, the tawny *Fly* in May, and part of June, the *Waspish*, and the shell *Fly* in July, and the cloudy darke *Fly* in August.

Of Flies.

Now for the making of these *Flies*, the cloudy darke *Fly* is made of blacke Wool, clippt from betweene a *Sheepes* eares, and whipt about with blacke Silke, his wings of the under mayle of the *Mustard*, and his head made blacke, and suitable, fixed upon a fine peece of Corke, and folded so cunningly about the hooke, that nothing may be perceived but the point and beard onely. The *Shell fly* is made of fine greene foke, and the wings of the wings of a *Peewee*: the *Wasp fly*

The making of Flies.

is made of blacke Wooll, lapt about with yellow silke, and the wings of the downe of a *Buzzard*; the *Tawny-fly* is made of lawny Wooll, and the wings set one contrary to another, and made of the white downe of a *Widgeon*; the *Alderflie* is made of fine stocks; shorne from a fesse-gray russet, and the wings of the blackest male of a *Drake*; the bright *Yellow-fly* is made of yellow Wooll, and his wings of a red *Cocks* yellow maine, the sad yellow *Fly* is made of blacke Wooll, with a twisted yellow Silke like a list, whipt downe on eyther side, and the wings of the wings of a *Buzzard*; set on with blacke thred; the blacke *Fly* is made of blacke Wooll, and lapt about with the hearle of the *Peacock*; taylor, his wings with the brayne feathers of the *Blizzard*, and some of his blew feathers on his backe; the red *Fly* is made of red Wooll, lapt about with blacke Silke, and the wings of the male of a *Adallard*, with some of the red feathers of a *Capon*; the stone *Fly* is made of blacke Wooll, made yellow under the wings, and under the taylor with Silke, and the wings of *Drakes* downe; the greater dun *Fly* is made of blacke Wooll, and his wings of the dun feathers of a *Drakes* taylor, the lesser dun *Fly* is made of dun Wooll, and his wings of the male of a *Parridge*.

Now for the shapes and proportions of these *flies* it is impossible to describe them without paynting, therefore you shall take of these severall *flies* alive, and laying them before you, try how neere your Art can come unto nature by an equall shape, and mixture of colours, and when you have made them, you may keep them in close boxes uncrosted, and they will serve you many yeeres.

Preservation
of Bays.

Now for the preservation, and keeping of your quicke *Bays*: (for longer then they are neare, and sweet they are not good) you shall understand, that they must not be kept altogether, but every kind severall by it selfe, and nourished with such comforts as it delighteth in, when it is at liberty, or with such things as they breed in, as

upon

upon when they are first taken. And first for the red *Worms*: when you take them, you shall put them into a bagge of red cloath; and chopping a handfull of *Fennell*, mixe it with halfe so much fresh mould, being blacke, and fertile; and they will both live, and scower therein: there be some Anglers which put wet Mosse, both under, and above them: others put *Parceley*, or sweet *Marjoram* unto them, but the former way is the best, so you observe every night to renew their earth, or once in two dayes to refresh them with a little new *Ondung*, and thus you may keepe them two moneths without imperfection: for the great white *Maggots*, you shall mixe with them *Sheepes-tallow*, or little bits of a beasts liver: the best way to scower them, is to put them into a bagge of blanketing with *Sand*, and hang them where they may have the ayre of the fire, or other warmth, for the space of an houre or two. For *Frogges*, and *Grasshoppers*, you shall keepe them in wet mosse, and long grass, moistened every night with water, and when your Angler with them: you shall cut off their legges by the knees, and the *Grasshoppers* wings neere to the body: for other *Wormes*, as the *Bubbe*, *Cadis-worme*, *Canker*, and such like, you shall keepe them with the same things you finde them upon: and for all live *Flies* you shall use them as you take them, only the *Waspe*, the *Horner*, and *Bumble-Bee*, which is without sting, you shall first dry them a little in a warme Oven after the Bread is drawne, and then dip all their heads into *Sheepes* blood, and then dry them againe, and so keepe them in a close boxe, and they will continue two or three months in good perfection.

Now lastly, to speake of your made *Baits*, which are Of making *Pasts*, the most of them will last the whole yeere, and *Pasts*, as they be divers, so I will show you how to compound every one of them in his true, and perfect nature. First, to make *Pasts*, that shall last the longest, you shall take *Bonne-flower*, and those parts of the

Comes-legge which is called the Almon of the Cony, or if it be of a fat young Whelp, or a Cat, it is as good, and to these put a like quantity of *Virgin-Wax*, and *Sheep-fat*, and then beat them together in a Morter, till they be made one body, then with a little clarified *Hony* temper it before the fire, and so make it up in round balls, and it will last all the yeere, and the use thereof is, when you Angle, to baite your hooke therewith, and not any Fish which swimmeth in fresh waters but will greedily bite therewith.

There is also another Paste which is of equal quality, and use with this, and will last as long, and that is to take the *Kedney-tallow* of a Sheepe, and as much young *Cheese*, and beat them in a Morter till they be one body, then adde to them as much *Hony* as will bring it to an exceeding stiffe paste, then knead it before the fire, and allay the stiffnesse with life *Hony*, and so make it up into Bals. The use of this Paste is like the former. Take the blood of a Sheepe, and of *Hony* like quantity, and beat them together with a lump of fresh *Cheese*, then with the fine grated crums of white bread, worke them into a stiffe paste, and so route it up in Bals, and when you Angle doe not baite your hooke therewith, but now, and then cast little pellets thereof into the water, and it will entice the Fish to resort unto you, and to bite with great greedines. There be others which take Bread-crummes, and beat them in a Morter with ripe *Cherries* (the stones being taken out) till it come to a stiffe Paste, and then knead it up into Bals, and use it as you doe that which was last recited: it is most approved, and very excellent for all sorts of Fish in fresh waters.

Lastly, if you take *Venis Turpentine*, nine times wash and beaten, and mixt it with as much life *Hony*, and then dissolve them in the Oyle of *Polypody*, and so keepe it in a close glasse: then when you Angle, annoynt your baite but with this confection, and though the weather

be paver to reasonable, on the Fish never so ill disposed
to bite yet be sure you shall not lose your labour, but
take when all will otherwise of their purpose, for the
bait hath beene rarely approved, and hitherto hath
been maintained with great secrecy. And thus much
for baits, and their uses.

Of Angling for every severall kind of Fish, according to
their nature, and the best way to catch them.



Now to shew you how you shall Angle
most properly for every severall Fish,
with true art, according to the nature
of the Fish, I thinke it not amisse first
to begin with the *Goodgin*, *Rosh*, and
Dace, which being Fishes of eager bit,

Of the Good-
gin, Rosh, and
Dace.

are the most foolish, least afraidfull, and soon-
nest deceived; are the first finest prayes for young Scho-
lars, and such as are but learners in the *Art of Angling*,
for the easinesse of their gayning will not only settle an
unresolved mind, but give unto ignorance both com-
fort, and encouragement. If then you will Angle for
any of these small Fishes in great streames, it shall be
meet to take a Boate, and finding the places of their
habitation, which is commonly in sandy cleare waters, and
where they run swiftest, there Angle for them with
your smallest hooks, well leaded, and smallest Lines,
well Corked. Your hooke would rather drasse then be
an inch from the bottome, and your best baite is the
Red-worme, *Cod-worme*, *Maggot*, clotted blood of
Sheepe cut in little bits, or else the white *Spawne* or
brood of *Wasps*, and ever as soone as you see the Corke
stirre, suddenly strike; for they will lie nibbing at the
bait, and finding the hooke, forsake it. If you Angle
for them in small Brookes, you shall stand under Brid-

ges, at the falls of Mills, behind *Peplers*, or *Dzons*, or any where, where the streame runneth deepe, and swifely, and ever note, that when your bite failes, you remove your place, and seeke out a new standing, and withall forget not, ever when you Angle for any of these fishes, to cast in some of your Paste before your hooke; for this will make your sport much more abundant: and although the *Dace*, out of his owne nature, biteth high, and neere the top of the water, yet these bayts, and inticements will make him hooke, and be taken easily.

Of the *carpe*.

If you will Angle for the *Carpe*, you must have a strong Rod, and a strong Line, of at least seven or nine hayres, and either mixt with a Greene or watched mace; your worke must be large, long, and smooth; your Leads smooth, and close, and fixt neere the hooke, and the hooke of almost a three-penny compass. He is very dainty to bite but at some especiall houres, is very earely in the morning, and very late at night, and therefore he must be very much entised with Paste: his best bayts are the *Mass-worme*, the *Red-worm*, the *Adenow*, for he seldome refuseth them. The *Gadus-worme* is good for him in June, and the *Maggot-black-worme*, or *Grasshopper* in July, August, and September. If you make him Paste of foure *Almonds* whitt off *Egges*, and *Bread-crummes*, it will very much intice him also. I would ever wish you, before you fish for the *Carpe*, to cast in a handfull of white Bread chippings into the Pond or River, for they will not only intise him to your bayt, but also give you notice if you be neere his haunt, for you shall presently heare him smacke above the water, and then if you misse him, eyther your fortune or skill is not good.

Of the *chub*,
Chevin, or
Trout.

If you will Angle for the *Chub*, *Chevin*, or *Trout*, all your Instruments must be strong, and good: your Rod darke, and discoloured, your Line strong, but small, and short, your hooke of a two-penny compass, and if you Angle with a Fly, then, nor Lead, nor Corke, nor

pro-

Quill, if otherwise, then all of a handsome, and sutable proportion. The best standing to take them is in close, and concealed places, as behind Trees, Walls, or arches of Bridges: their haunts are in cleare waters which run upon Sand or Gravell, and they are in best season from March till *Michaelmas*: if you Angle for them with dead *flies* without Lead or Corke, I have shewed you in the former Chapter, the severall *flies* for each severall moneth; but if you Angle for them with other *bays*, then you must have both Corke, and leade, for he will bite neere the bottome, yet sometimes you may Angle for him with a small *Menow* hangd at your hooke by the neather parts without Corke, or Lead, and so draw the *bay* upon the top of the water, and both with it, and with every *fly*, strike rather before then after he biteth. If you angle for him at the ground in Mareh, Aprill, May, and September, the *Menow* is a good *bay*, so is the *Stone-fly*, *Cadis-worme*, *Bobbe*, red-*Worme*, ditch-Canker, young Frogs, the worme that breedeth on the *Ozier-leaf*, and the *Dacks-canker* mixt together. In June *Crickets*, and *Dore-flies* are good: In Iuly the *Grashopper* is good, so is the *bumble Bee*, dried *Wasps*, or dried *Hornets*, or any of their young brood in the Combs. In August flying *Pismires* are good, so is the *Colwort-worme*, or the *Maggot*, and in September cyther *Cherries*, *Mice*, before they have hayre, or the great *Sow-worme*.

I now will Angle for the *Ele*, the best place is at Weares, Mill-ponds, Bridges, hollow banckes, or any swift falling water: your Line strong, and not above two elles in length, and very heavily plumbd; a good round hooke, but no Corke, because you must not strike till the *Ele* plucke: neyther must you by any meanes pull hastily, but holding your Line stiffe, with labour, and patience tire him least that tearing his chaps, you loose him. The best *bay* is the red-*Worme*, or little pieces of *Sheepes-guts*.

Of the *Ele*.

Of the *Flounder*,
and *Sewant*.

The *Flounder*, and *Sewant* are greedy biters, yet very crafty: for they will nibble, and sucke at a *bait* a good while before they swallow it, and if they perceive the hooke, they will fly from it: therefore to make them more hasty of the *bait*, you must ever be moving your line, and seldome let it lye still. They lye most commonly in the deepest places of the River where the water is stillest, and runneth with least force: also they lye neere unto the banke, and delight most in the streame, which is brackish, and mixt with the salt water. Your Line must be strong, and well plumbde neere to the hooke: and the best *bait* is the red *Worme*, and the young brood of *Wasps*.

Of the *Grayling* or *Barbell*.

The *Barbell*, or *Grayling* which some call the *Umber*, are very subtil, and crafty Fishes: therefore you must be carefull that your *bait* be sweet, and new, and when you angle for them, doe in all things as you doe for the *Trout*, for they bite aloft in the Summer, and at the bottome in the Winter. Your lines must be extraordinarily strong, and your hooke of a three-penny Compass, for they are Fishes of waighy bodies, and when they are strooke must have liberty to play, and tyer themselves, or else they will indanger the breaking of your Rod, and therefore your Line must bee of the longest size.

Of the *Bream*.

The best seasons to angle for the *Bream*, is from the latter end of February till September, he is a lusty strong Fish, and therefore your tooles must be good, the *bait* in which he most delighteth is in *Wormes* of all sorts, *Butterflies*, greene *Flies*, paste of bread crummes, or the brood of *Wasps*.

Of the *Tench*.

The *Tench* is a Fish that ever loveth the bottome of Rivers, where the Oose or muddie is thickest: and is most fit to be angled for in the height of Summer, for at other seasons he is not apt to bite, and at all times he is very dainty. The *bait* in which he delighteth most, is paste that are very sweet, and the browner the better, especially

ally if it be made with the blood of a Sheepe. At the great red-*Worme* also, he will bite, and so much the sooner if you mixe them with this *Paste*; the *Maggot*, and dried *Waspe* he will seldome refuse, chiefly being drest in *Hony*.

The *Bleake*, *Ruffe*, and *Pearch* are Fishes which bite neyther hie nor low, but for the most part in the midst of the water, therefore your Line must be very lightly plumbde, and farre from the hooke. The *bays* which most intice them, besides the red-*Worme* is the House-fly in the Summer, and the fat of *Bacon* in the Winter: in Aprill they will bite well at the *Bob-worme* or *Maggot*, and in all other seasons, they seldome refuse any *Worme* or *Canker*. Your Line would be small, and well armed from the hooke a handfull with small *Wyer*, for the teeth of the *Pearch* will else gnaw it a sunder.

Of the *Bleake*,
Ruffe, and
Pearch.

The *Pyke* is a fish of great strength and waight, in so much that you can hardly have a Line of Hayre to hold him, therefore your best Anglers use most commonly a chaulke Line, your Angle-rod also must have no small top, but be all of one piece, and bignesse, and the Line made exceeding fast for slipping; your hooke would be of the strongest *Wyer*, white or yellow, and made double, the poynts turning two contrary waies, and then armed with strong *Wyer* a foote at least; his best *bays* is a small *Roch*, *Dace*, or *Menor*, the hooke being put in at the taylor, and coming forth under the gilles, and you must seldome or never let your *bays* lie still in the water, but draw it up, and downe, as though the Fish did move in water, and fled from the *Pyke*, for this will make him more eager, and hasty to bite; and having bit, you must be sure to try him well before you take him up. The yellow live *Frogge* is also an excellent *bays* for the *Pyke*, for you must understand, that they naturally delight not in any dead or unmoving food.

Of the *Pyke*.

Of Snickling
the *Pyke*.

There be some which take great delight to snickell or halter the *Pike*, which is good when *Pikes* are broke out of Ponds or Rivers, and come into little small ditches or rundles, as is oft to be seene in low Countries. The way then to halter them is, first to finde the *Pike* where he lyeth (which in the heat of the day, you may easily doe) then take your Chaulke-line, and making a large running nooze thereof, put it gently into the water, about two foot before the nose of the *Pyke*, then when you feele it touch the ground, cause one to goe behind the *Pyke*, and with a poale to stirre him, then as he shutteth, meete him with your nooze, and so with a sodaine, and quicke Ierke throw him upon the land. In this sport you must be very ready, nimble, and quicke sighted, for if you give him the least time, he will escape you.

Of the *Sal-*
mon.

Now lastly touching the angling for the *Salmon*, albe he is a *Fish* which in truth is unfit for your travell, both because he is too huge, and cumbersome, as also in that he naturally delighteth to lie in the bottomes of great deepe Rivers, and as neere as may be in the middest of the channell, yet for as much as many men esteeme that best which is got with most difficultie, you shall understand that the *hays*, in which he most delighteth are those which serve for the *TROUT*, as *paste* or *Flys* in the Summer, and red-*Wormes*, *Bob-Wormes*, or *Cankers* on the water-docks after *Michaelmas*. And thus much for the Art of Angling, and taking, of each severall sorts of *Fish* which live in the fresh or brackish waters.

CHAP. 7.

CHAP. 7.

Of taking Fish without Angles, and first of laying hookes.

THe laying of hookes to take Fish in the night is most commonly used for the Pike, in great broad Meares or Waters, full of Sedge Buttrushes, and other weeds being very deepe, and muddy: Some doe use to lay them for the Ele also, but you shall understand, that if they lye for the Pyke, you must by no meanes let your hooke goe to the bottome. but with a floate keepe it halfe a foote from the ground, but if you lay for Eles, then let your hooks be smaller, and sinke as low as they will.

Now for the manner of laying them, you shall bayt the hookes as you did when you Angled with Menow, Roch, Dace, Gudgeon or Millers-thumbe: and being made fast to strong pack-thred fasten also that pack-thred to a strong Cord, which Cord if it be three fadom in length, may hold fixteene or twenty hookes. Then fixing two strong stakes into the earth, fasten the two ends of the bigge Cord to the two stakes, and so let it lie from Sunne set till Sunne rise, and you shall never fayle, but some of your hookes will have taken, only observe if you lay for Pyks, to lay in the middest of the water neere the Sedge, and Weeds, but if you lay for Eles, lay neere the Banks, so there be no hollow or rotten Trees growing thereon.

Now if you would with these laid hookes take any other sorts of Fish, you shall lay such hookes as are fit for them: and before you depart away, cast into the water good store of Pellets of those pastes which are proper for the Fishes you would take: as the paste which is made of Branne, Sheepes bloud, Garlike, and lees of Wine, will take all sorts of small Fish, that paste

which is made of *Sheepes Liver, Guts, Hogges-blood, Bread-crumbs, and Opoponax*, will bring *Pearch, Tench, Carpe, or Breame* to your hooks, and that *Paste* which is made of *Rue, Pine-Apple-kernels, Beans-meale, and Hony*, will bring the *Salmon, the Trout, Cheavin, or Barbell*, to your hooks at all times of the yeere.

To take Eles in Winter.

Make a long bottle of *Hay*, wrapt about *Willow-boughs*, having *guts*, or garbage in the middle which being soaked in the deepe by the side, two or three dayes the *Eles* will be in it which you may tread out.

To take a Pyke with sports.

Tie a hooke with a *Frogge* upon it with a string at the foot of a *Goose*, and put her into a Pond, where you shall see good tugging.

CHAP. 8.

Of preserving fish from all sorts of devourers.



Mongst all the ravenous Creatures which destroy Fish, there is none more greedy then the *Otter*, whose only food being thereon, hourly lyeth in wait to consume them: therefore though some Fishermen use to take him with a wheele made with a double tunnell, and called by the name of the *Otter-wheele*, whose practise is so ordinary that every Fisherman knowes the use of the same, yet for a more ready, and easie way to destroy him, you shall as neere as you can finde out his haunt, and the holes that are in the banke, and under the roots of Trees where he lodgeth, and then take a great *Ele*, and flitting her backe above her navell, put in three or foure lumps of *Arsmoke*, and then stich up the *slings* againe, and so lay the *Ele* from the navell downeward in

in the water, and from the navell upward out of the water: which when the *Otter* finds, it is his property to eate to the navell, and no farther, which if he doe it is the last he will eate.

Next to the *Otter*, the *Herne* is a great devourer of Fish, especially the small *Fry*, or that which lives in shallow places: therefore to destroy the *Herne*, you shall take a strong *Barbell* hooke, and *bait* it, eyther with a *Menow*, or a piece of *Dogs-flesh*, colour your Line greene, and lay it in a shallow place made fast to some stake, where the *Herne* may wade to the knee to take it, and as soone as he hath swallowed it, he shall no more goe from the place.

Now, for as much as this Fowle is a great destruction unto the young Spawne or Fry of Fish, it shall be good for the preservation thereof to stake downe into the bottomes of your Ponds good long Kids, or Faggots of *Brushwoods*, mixt with the boughs of greene *Willows*, or *Oziers*, in which the Fish casting their spawne it will be a defence for them, till they be able to flie into better safety.

Next to the *Herne* the *Water-rat* is a great destroyer of young Fish, especially *Trouts*, *Crevisses*, or any that lie in holes in the bankes: the best way to destroy them is by hunting them with *Water-dogs*, which is a very good sport, and I have seene twenty kild in an after-noone; but some doe use to take them with Hatches, or dead falls, set in their haunts, but the former way is the better.

Next them the *Sea-pie* is a great devourer of all sorts of Fish; and there is no better way to take him then by setting Rods drest with *Water-Lime*, and set shoring be the edge of the water one crosse over another, in such places as the water is most shallowest, and upon some tufts of greene weeds lay a Fish for a *bait* under the rods, at which he can no sooner strike but he is taken.

NEXT

Next these the Kings *fisher* (which is a small Greene Bird) is a great destroyer of Fish, and the way to take him is to marke his haunt where he commonly sitteth, which is ever in some bush next the River: then set a little Cradle of lyme straws about his seat, and they will quickly take him, for he seldome changeth, but ever sitteth upon one bough.

Now to conclude, for the *Cormorant*, the *Morhen*, the *Bald-geese*, or the *Osprey*, which devoure all kind of fish whatsoever, there is no way better to kill them then by watching their haunts, to shoot at them with a Fowling-piece, and in the breeding time of the yeere to destroy their nests.

CHAP. 9.

Of the ording of Ponds, for the nourishment of Fish.



Here is nothing that killeth Fish or maketh them to prosper worse then putrified, and stinking water: neyther is there any thing which corrupteth water sooner then Weeds, Sedge, and such filthinesse being suffered to grow therein: therefore it shall be good once in three yeeres to cleanse your Ponds of all manner of Weeds, and filth, which with a small Boate, and a sharpe hooke you may easily doe at the fall of the Lease, for to cut them in the Spring doth increase them. Now if your Ponds be much subiect to mudde, as for the most part those in clay Countries are, then it shall be good once in seven yeeres to drayne them, and lade them, and this would be done at the beginning of the Spring: and such Fish as you meane to preserve, you shall put into smaller pits or stewes, and the other dispose at your pleasure: then causing the mudde to be troden with mens feet as you tread Morter, you shall

shall see all the *Eles* rise aloft, which when you have taken also, then with Shovels, and trough Spades cast out all the mudde; and filth (which is a singular compasse for land) upon the banke: then sodde the bottome of the Pond, and the sides with greene sods, and fixe them hard into the earth with small stakes of *Sallow*, and these sides will nourish the Fish exceedingly: this done, if your Pond have any fresh Spring in it, then you shall lade the water backe againe into it, and then drayning your stewes, take out your store of Fish, and put them againe into your Pond, observing ever that there be two parts spawners, and but a third melters. These pits; and small stewes howsoever others write to the contrary, are better for feeding of Fish then breeding: therefore you shall ever keepe them with fresh water, and placing so one by another, that you may empty them at pleasure, once in three moneths renew their banks, and bottomes with fresh soddes of the fruit-fullest grasse; also, you shall put into them good store of small Fry of *Roch*, *Dace*, *Meeow*, *Loch*, and *Millers-shumbs*, for the bigger Fish will feed thereon: also the inward garbidge, and blood of *Sheepe*, *Calves*, *Hogges*, and such like, which will fat Fish suddenly, for you must know that as the Fish in Rivers have, by vertue of the current, ever something brought unto them to feed on, so the Fish which is imprisoned in Ponds, and wants that helpe, must eyther be relieved, or else perish, and there is nothing better to feed them with then that before spoken, or else *Brewers-graynes*, *Chippings*, *Cutts*, and any *Corne* whatsoever, throwne into the Ponds morning, and evening.

CHAP. 10.
Of the best Water-Line.



The best Water-Line that can be made, and which will most surely hold with in the water, is to take a pound of the strongest Bird-Lime, and wash it in nine running waters, till there be no hardness left in it, and then beat out the water clean, and dry it, which done put it into an earthen pot, and add thereto as much Capon-grass as will make it run, two spoonefulls of strong Vinegar, a very little Lamp-Oyle, and Minie-Tarperine, and boyle them all gently together upon a soft fire, stirring it continually. Then take it from the fire, and let it coole, then at any time when you mean to use it, wade it, and then annoy it with your Rods, Bushes, Straws, or Lines, and no water will take away the strength.

FINIS.



Of the fighting-Cocke.

CHAP. I.

Of the Choyce, Ordryng, Breeding, and Dyeing of the fighting-Cocke for Battell.



Since there is no pleasure more noble, delightfome, or voyd of courzonage, and deceit then this pleasure of Cocking is: and since many of the best wisedomes of our Nation have bene pleased to participate with the delights therein, I thinke it not amisse, as well for the instruction of those which are unexperienced, as fortifying of them which have some knowledge therein, to declare in a few lines the election, breeding, and secrets of dyeing the fighting-Cocke, which having bene hitherto concealed, and unwritten of, is for our pleasure sake as worthy a generall knowledge as any delight whatsoever.

To speake then first of the choyce of the fighting-Cocke, you shall understand that the best Characters you can obserue in him, is the shape, colour, courage, and sharpe heele: for his shape the middle, and indiffe-

The choyce
of the Cocke
for Battell.

rent size is ever accounted best, because they be ever most matchable, strong, nimble, and ready for your pleasure; whereas the huge *Cocks* (which we call the turne-Rocks) is ever hard to finde an equall, lubberly, and affording small pleasure in his battell; and so the exceeding litle *Cocks* is as hard to mutch, and is commonly weake, and readions in his manner of fighting. He would be of a proud, and upright shape, with a small head, like unto a *Sparhawk*, a quicke large eye, and a strong beake, crookt, and bigge at the setting on, and in colour suitable to the plume of his Feathers, as blacke, yellow, or reddish. The beame of his legge would be very strong, and according to his plume, blew, gray, or yellow: his spurres long, rough, and sharpe, a little bending, and looking inward. For his colour, the gray pyle, the yellow pile, or the red with the blacke brest, is esteemed the best: the pyde is not good, and the white, and dun are the worst. If he be red about the head, like Skarlet, it is a signe of lust, strength, and courage, but if he be pale it is a signe of sicknesse, and faintnesse. For his courage, you shall obserue it in his walke, by his treading, and the pride of his going, and in the pen, by his oft crowing. For the sharpnesse of his heele, or as *Cocks*-masters call it, the narrow heele, it is onely scene in his fighting, for that *Cocks* is sayd to be sharpe heeld, or narrow heeld, which every time he riseth hitteth, and draweth blood of his aduersary, guil ding (as they terme it) his spurres in blood, and threatening at every blow an end of the battell. And these *Cocks* are surely of great estimation, for the best *Cocks*-masters are of opinion, that a sharpe heeld *Cocks*, though he be a little false, is much better then the truest *Cocks* which hath a dull heele, and hitteth seldom, for though the one fight long, yet he seldom wounds, and the other though he will not endure the uttermost hewing, yet he makes a quicke dispatch of his

his businesse, for every blow puts his adversary in danger. But that *Cock* which is both assuredly hard, and also very sharpe heeld, he is to be esteemed, and is of the most account above all other, and therefore in your generall election chuse him, which is of strong shape, good colour, true valour, and of a most sharpe, and ready heele.

Now for the breeding of these *Cockes* for the battell, it is much different from those of the dunghill, for they are like Birds of pray, in which the female is ever to bee preferred, and esteemed before the male, and so in the breed of these Birds you must be sure that your *Henne* be right, that is to say, she must be of a right plume, as gray, grissell, speckl, or yellowish, blacke or browne is not amiss: she must be kindly to her young, of large body, well pockt behind for large Egges, and well tufted on the crowne, which shewes courage: if shee have weapons she is better, but for her valour it must be excellent, for if their be any spot of cowardise in her, the *Chickens* can not be true. And it is a note amongst the best breeders, that the perfect *Henne*, from a dunghill-*Cock*, will bring a good *Chicken*, but the best *Cock* from a dungill-*Henne* can never get a good Bird: and I have knowne in mine owne experience, that the two famouslest *Cockes* that ever fought in these daies, the one called *Noble*, the other *Grissell*, begot on many ill *Hennes* very bad *Cockes*, but the famous *Henne*, *links* never brought forth ill Bird, how bad soever her *Cock* were.

The breeding
of the battell
cocke.

Having then unto perfect *Cockes* got perfect *Hennes* (for that is the best breeding) you shall know that the best season of the yeere to breed in, is from the increase of the Moone in February, to the increase of the Moone in March, for one March Bird is ever better worth then three at any other season. You shall place her *Penne* in which she sitteth, to stand warme, and to make

her bed of soft and sweet straw, for they be much tenderer then the dughills are; neyther shall you suffer any other Fowle to come in her view where she sits, for it will move her to displeasure and make her indanger her Egges. You shall observe in her sitting, whether she be busie to turne her Egges (which is a good signe in a *Henne*) and if she be slacke you shall helpe her at such times as she sleeth from her nest, and ever be sure that when she cometh from her nest to have meat, and water ready for her, lest being forced to seeke her food she suffer her Egges to coole too much: also, you shall have Sand, Gravel, and fine sifted ashes in the roome where she sitteth, in which she may bath, and trimme her selfe, at her pleasure. After one and twenty daies is the time of there hatching, and if when they are new hatched, she doe neglect to cover, and keepe the first warme till the rest be disclosed, you shall observe her, and take those that are first opened, and lapping them warme in Wooll, lay them within the ayre of the fire till the rest be hatcht, and then put them all under her, and keeping both the *Henne*, and them exceeding warme, for they be so tender that the least cold will kill them, and suffer neither them nor the *Henne* to goe abroad into the ayre till they be a moneth old: and let them have store of food, as *Our-mate*, *Cher-separings*, *Chibber-was*, and fish tilke, and a large roome to walke in, the floore being boarded, for the earth-floore is too moyst, and the plaster-floore too cold. After they are a moneth old, you shall let them walke in some grasse court, where they may have store of *Wormes*, but by all meanes be sure that there be no stinking puddles of water in it, no sinkes, nor filthy Channells, for it is the greatest poyson that can be to Birds of this nature, and breedeth those diseases which are most mortall, therefore if every morning before they goe forth, you perfume them, and their roome with *Rosemary*, or *Penny-roy*, all burnt, it is a great preservation against all those infirmi-

firmities, or to chop *Locke-blades* amongst their meat is good also. In this sort you shall nourish them till you may distinguish the *Cock-chicken* from the *Henny*, and then seeing their Combs or Wattels but appeare, you shall cut them away, and seare them close, and so annoynt the sore with sweet *Butter* till it be whole. This will make them have fine, small, slender, and smooth heads, whereas to suffer the Combe to grow to his biggesse and then cut it away, it will make him barcagouty, thicke head, with great lumps; neyther is the fluxe of blood wholesome, for the least losse of blood in a feathered Fowle is mortall, and dangerous. You shall suffer your *Cock-chickens* to grow together with their *Hennies* till they begin to fight, and pecke one another, but then you shall separate them, and dis pierce them into severall waikes; and that waiker is the best for a fighting *Cock*; which is farthest from resort, as at Wind-mills, or Water-mills, George-houses, and such like, where he may live with his *Henny* without the offence or company of other *Cocks*; Lodges in *Parks* are also good, and so are *Cowpens*; only they are a little too much haunted with vermine, and that is dangerous, let the feeding place for your *Cock* be upon soft dry ground, or upon boards, for to feed upon paved earth, or on *Plaster-floores* will make their beakes weak, blunt, and not apt to hold fast. Any white *Corne* is good food for a *Cock* in his waiker, and so are tostes or crosts of bread steeped in drinke; or mans urine, for it will seower, and coole them inwardly.

If your *Chicken* begin to crow (not being five months old) cleare, and loud, or at unreasonable times, doe not esteemethem; for it is an apparant signe of cowardise, and falshood; for the true *Cock* is very long before he get his voyce, and when he hath it he observes his houres with the best judgment. Unto your fighting *Cock* three *Hennies* are sufficient, five are with

with the most, for they are so hot of nature, and will tread so much, that they soone consume their naturall strength.

A *Cocke* would not be put to the battell before he be two yeeres old, at which time he is perfect, and compleate in every member, for to suffer him to fight when his spurres are but warts, you may well know his courage, but never his goodnesse. You must also have an especiall care to the Perch whereon your *Cocke* sitteth when he rousteth, for if it be too small in the grype, or crooked, or so ill placed that he cannot sit but he must straddle with his legges, any of these faults will make him uneven heeld, and whatsoever he was naturally, yet by this accident, he will never be good striker, for the making of the Perch, eyther maketh or marreth the *Cocke*; therefore to prevent this fault, the best way is to have in your roust a row of little Perches, not above seven or eight inches in length and not a foot from the ground, so that your *Cocke* may with ease goe up to them, and being set, must of force have his legges stand neere together, for it is a rule that he which is a close fitter is ever a narrow striker. Let the foot-stoole of the Perch be round, and smooth, and about the bignesse of a mans arme. Yet for your better knowledge, because words cannot so well expresse these quantities, it shall not be amisse for you to goe to some famous *Cocke*-masters house, and view the pierches which are within his feeding pennes, and according to those proportions frame your owne, for the perch is the making, and spoyling of any *Cocke* whatsoever. Again, you must be carefull, that when your *Cocke* doth leape from his Perch, that the ground be soft whereon he lighteth, for if it be hard or rough, it will make your *Cocke* grow gouty, and put forth knots upon his feet.

Now lastly, for the dyeing, and ordering of a *Cocke* for a battell, which is a secret, yet never divulged, but kept

kept close in the breasts of some few, and for as much as in it only consisteth all the ground, and substance of the pleasure, the best Cocke undieted, not being able to encounter with the worst Cocke that is dieted: you shall understand, that the time to take up your Cockes is at the latter end of August (for from that time till the latter end of May, Cocking is in request) and having viewed them well, and see that they are sound, hard feathered, and full summed, you shall put them into severall Pens, the models whereof you may behold in every Cocke-masters or Inne-keepers house, having a moving Perch in it, to set at which corner of the Pen you please.

Of taking up
Cockes.

This Pen would be made of very close boards, well joyned together all but the fore front, which would be made open, like a grate, one Barre two inches distant from another, and before the grate two large Troughs of soft wood, one for his meat, the other for his water. The doore of the grate would be made to lift up, and downe, of such largeness that you may with ease put your Cocke, in, and out, and daily cleanse the Pen to keepe it sweet, and wholesome. The Pen would be at least three foot in height, and two foot in square every way, and many of them may be joyned in one front, according to the bignesse of the roome, in which they are built: and also one above another, only with overshadowing boards so that one Cocke may not see another.

Of the Cocke
Pen.

When your Cocke, as aforesayd, is put up into his Pen, you shall for three or foure daies feed him only with old Maunchet, the crust pared away, and cut into little square bits, and you shall give him to the quantity of a good great handfull at a time, and you shall feed him three times in the day, that is to say, at Sunne rise, at high noone, and at Sunne set. You shall ever let him have before him the finest, coldest, and sweetest Spring-water that you can get. After he hath

Of his dyet.

Of sparring
of cockes,

beene thus fed foure daies, and his Corne, Wormes, Gravell, and other course feeding scowred out of him, you shall then instead of feeding him in the morning, take him out of the Pen, and another *Cocke* also, and putting a payre of Hots upon each of their heeles, which Hots are soft bumbasted roudes of Leather, covering their Spurs, so that they cannot hurt or bruise one another, and so setting them downe on the greene grasse, let them fight, and buffet one another a good space, as long as in their teaching they doe not wound or draw blood one upon another: and this is called the sparring of *Cockes*: it heateth, and chafeth their bodies, and it breaketh the fat, and glut which is within them, and maketh it apt to cleanse, and come away.

After your *Cockes* have sparred sufficiently, and that you see them pant, and grow weary, you shall take them up, and taking off their Hots, you must have deepe straw baskets made for the purpose, with sweet soft straw to the middle, and then putting in your *Cocke*, cover him with sweet straw up to the top, and then lay on the lidde close, and there let your *Cocke* stowe, and sweate till the evening. But yet before you put him into the stowe, you shall take *Butter*, *Rosemary*, finely chopt, and white *Sugar-candy*, all mixt together, and give him a lump thereof, as much as your thumbe, and then let him sweate, for the nature of this scowring is to bring away his grease, and to breed breath, and strength. You may in time of necessity for want of these straw baskets stow your *Cocke* in a *Cocke-bagge*, by laying straw both under, and above him, but it is not so good, because the ayre hath more power to passe thorow it. After foure of the clocke in the evening, you may take your *Cocke* out of the stowe, and licking his head, and eyes all over with your tongue, put him into his Penne, and then taking a good handfull of bread, small cut,
put

put it into his trough, and then pissing into the trough also give it him to eate, so as he may take his bread out of the warme urine, for this will make his scowering worke, and cleanse both his head, and body wonderfully.

Now you shall understand, that the bread which you shall give him at this time, and all other times during his dyeting shall not be Maunchet, but a speciall Bread made for the purpose in this manner; you shall take of *Wheat-meale* halfe a Pecke, and of fine *Oat-meale-flower* as much, and mixing them together knead them into a stiffe *Paste*, with *Ale*, the white of a dozen of *Egges*, and halfe a pound of *Butter*, and having wrought the *Dow* exceeding well, make it into broad thinne *Cakes*, and being three or foure dayes old, and the blisterings of the out-side cut away, cut it into little square bits, and give it the *Cocke*.

Of the best
Diet-bread.

There be some that in this Bread will mixe *Licorae*, *Annis-seeds*, and other hot Spices, and will also in the *Cockes* water steepe slices of *Licorae*, but it is both unnaturall, and unwholesome, and maketh a *Cocke* so hot at the heart, that when he comes to the latter end of a battell he is suffocated, and overcome with his owne heate; therefore I advise all men of judgment to take that for the best dyet which is most naturall, and least contrary to the Fowles ordinary feeding.

But to returne to my former discourse, after you have fedde your *Cocke* thus for all night, you shall the next day let him rest, and only give him his ordinary feedings of Bread, and Water, then the next day (which is the second day after his sparring) you shall take him into a fayre even greene Close, and there setting him downe, having some dunghill-*Cocke* in your armes you shall shew it him, and so run from him, and entice him to follow you, and so chase up, and

The best
scowring.

downe halfe an houre at the least, suffering him now, and then to have a stroke at the dunghill *Cocke*. And when you see that he is well heated, and panteth, you shall take him up, and beare him into your *Cocke*-house, and there first give him a scowring; take of *Butter*, which hath no *Salt*, halfe a pound, and beate it in a Morter with the leaves of *Hearbe of Grace*, *Isop*, and *Rosemary*, till the Hearbs cannot be perceived, and that the *Butter* is brought to a greene *Salve*, and of this give the *Cocke* a roule or two, as bigge as your thumbe, and then stowe him in the basket, as is before sayd, till evening, and then feed as was formerly declared. The next day you shall let him rest, and feed, and the next day after you shall sparre him againe, and thus every other day for the first fortnight, you shall eyther sparre or chase your *Cocke*, which are the most naturallest, and kindliest heates that you can give him, and after every heate you shall give him a scowring: for this will breake, and cleanse from him all grease, glut, and filthinesse, which lying in his body, makes him pursie, faint, and not able to stand out the latter end of a battell. Having fed your *Cocke* thus the first fortnight, the second fortnight you shall also feed him in the same manner, and with the same food, but you shall not sparre him, or give him heats above twice in a weeke at the most, in so much that thrice or foure times in the fortnight will be sufficient, and each time you shall stowe, and scoure him according to the nature of his heats, that is to say, if you heat him much you shall stowe him long, and give him of your scowring the greater quantity: if you find that he is in good breath, and needeth but sleight heats, then you shall stowe him the lesse while, and give him the lesse of the scowring. Now to the third fortnight, which maketh up the sixe weekes compleate, (being a time sufficient to prepare a *Cocke* for his battell) you shall feed him as aforesayd, but you shall not sparre him at all, for feare of making his head tender or sore, neyther give him any violent.

exer-

exercise, but only twice or thrice in the fortnight, moderately, let him runne, and chase up, and downe, to maintayne his winde, and now, and then cuffe a *Cocke*, which you shall hold to him in your hands, which done, you shall give him his scouring well round in the powder of *Sugar-Candy*, white or browne, but browne is the better, for the *Cocke* then being come to perfect breath, and having no filth in his body for the scouring to worke on, it will worke upon the vitall parts, and make the *Cocke* sicke, which the *Sugar-Candy* will prevent, and strengthen nature against the medicine. After the end of sixe weekes feeding, finding your *Cocke* in lust, and breath, you may fight him at your pleasure, observing that hee have at least three dayes rest before he fight, and well emptied of his meate before you bring him into the Pit.

Now when you bring him into the Pit to fight, you must have an especiall care to the matching of him, for in that art consisteth the greatest glory of the *Cocke-master*, for what availeth it to feed never so well, if in the matching you give that advantage which overthroweth all your former labour? Therefore in your matching there is two things to be considered: that is, the length of *Cockes*, and the strength of *Cockes*: for if your adversary-*Cocke* be too long, yours shall hardly catch his head, and then he can neyther endanger eye nor life: and if he be the stronger, he will over-bear your *Cocke*, and not suffer him to rise, and strike with any advantage: therefore for the knowledge of these two rules, though experience be the best Tutor, yet the first which is length you shall judge by your eye, when you gripe the *Cocke* about the waste, and make him shut out his legges, in which posture you shall see the utmost of his height, and so compare them in your judgment. Now for his strength, which is knowne by the thickenesse of his body, for that *Cocke* is ever held

The matching
of *Cockes*.

the strongest which is largest in the garth, you shall know it by the measure of your hands, gryping the *Cock* about from the points of your great fingers, to the joynts of your thumbs, and eyther of these advantages by no meanes give to your adversary, but if you doubt losse in the one, yet be sure to gaine in the other: for the weake long *Cock* will rise at more ease, and the short strong *Cock* will give the surer blow, so that because all *Cockes* are not cast in a mould, there may be a reconciliation of the advantages, yet by all meanes give as little as you can.

Of preparing
cockes to the
fight.

When your *Cock* is equally matcht, you shall thus prepare him to the fight, first with a payre of fine *Cock* sheeres you shall cut all his Maine off, close to his necke, even from his head to the setting on of his shoulders, then you shall clip off all the feathers from his tayle close to his rumpe: where, the more skarlet that you see his rumpe, in the better estate of body the *Cock* is. Then you shall take his wings, and spreading them forth by the length of the first feather of his wing, clippe the rest slopewise with sharpe points, that in his rising he may therewith indanger the eyes of his adversary: then with a sharp knife you shall scrape smooth, and sharpen his beake, then shall you smooth, and sharpen his Spurres.

The ordning
of *Cockes* at-
ter the Battell,
and the curing
them.

Lastly, you shall see that there be no feathers about the crowne of the head for his foe to take hold on, and then with your spittle moysting his head all over, turne him into the Pit to prove his fortune: when the battell is ended the first thing you doe, you shall search his wounds, and as many as you can finde you shall with your mouth sucke the bloud out of them, then wash them with warme urine, to keepe them from ranckeling, and give him a roule or two of your best scouring, and so stowe him up as hot as you can, both with straw, and blanketting in a close Basket for all that night, then in the morning take him forth, and if his head be much sweld,

stveld, you shall sucke his wounds againe, and bath them with warme urine, then having in a fine bagge the powder of the Herbe *Robur*, well dried, and finely seyrst, pounce all the sore places therewith, and then give the *Cocke* a handfull of Bread to eate out of warme urine, and so put him into the stove againe, and by no meanes let him feeble the ayre till all the swelling be gone, but twice a day sucke his wounds, dresse him, and feede him, as is aforesaid. But if hee have received any hurt, or blemish in his eye, then you shall take a leafe or two of right ground *Lay*, not that which runneth along the ground, and is of the ignorant so called, but that which growes in little tufts in the bottome of Hedges, and is a little round rough leafe, and having chewde it well in your mouth, and suckt out the juyce, spit it into the eye of the *Cocke*, and it will not only cure it of any wound, or blow in the eye, where the sight is not pierced, but also defend it from the breeding of *fylmes*, *banes*, *warts*, or such other infirmities, which quite destroy the sight: observing that you doe not cease to dresse the eye therewith so long as you shall perceive any blemish therein.

Now if your *Cocke* have in his fight veyned himselfe, eyther by narrow striking, or other crosseblow, you shall finde out the wound: and presently binde thereunto the fine soft downe of a *Hare*, and it will both staunch it, and cure it. For any other casuall infirmity or sickenesse which shall happen unto *Cockes*, looke in a little Booke called *Cheape*, and good, and you shall finde them set downe at large, only I will give you this one small remembrance, that after you have put forth your wounded *Cockes* to their walkes, and come to visit them a moneth or two after: if you finde about their heads any swelled bunches, hard, and blackish at one end, you shall know that

that in such bunches are unsound chores: therefore presently with your Knife you shall open the same, and crush out the chores with your thumbs, then with your mouth sucke out all the corruption, and then fill the holes full of fresh Butter, and it will cure them.

And thus much for the nature of the Cocks, and how to keepe him for his best use in the pleasure of Princes.

FINIS.

Now if your Cocke have in his right voyced him-
selfe, and you shall see him to be so, you shall
your selfe make out the wound: and presently bleed
him into the first of a Wound, and it will
heale himselfe it, and cure it. For any other cuttall
infirmitie or ticklenesse which shall happen unto Cockes,
look in a little booke called Cockes, and you shall
find them the same as I have said, only I will
give you this one small recommendation, that after you
have put forth your wounded Cockes to their work
you shall come to visit them a month or two after:
you shall see their heads are twisted backward,
and you shall know, and distinguish to one end, you shall know
this